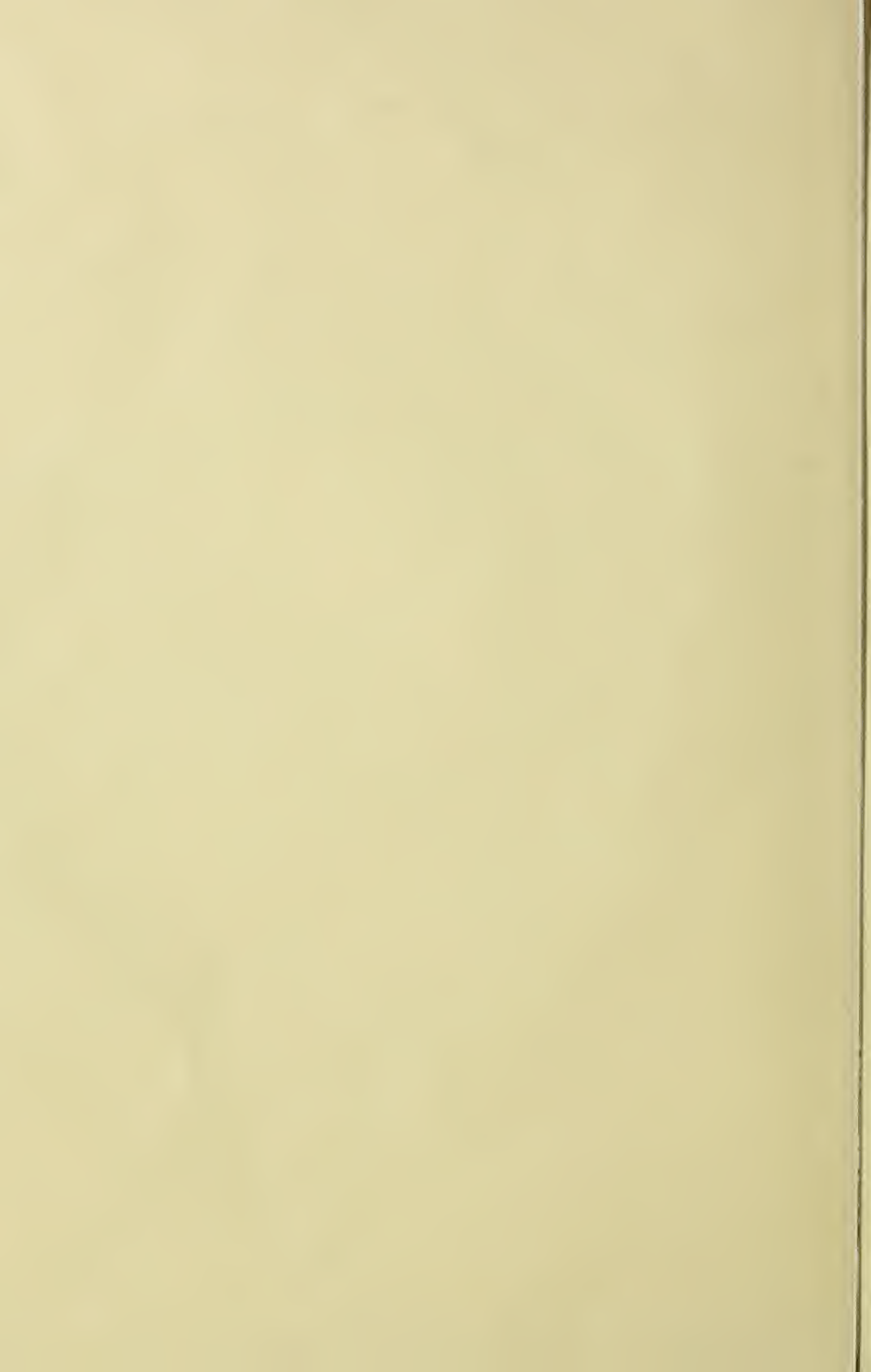


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THE

MARYLAND FARMER:

DEVOTED TO

Agriculture, Horticulture, Rural Economy & Mechanic Arts.

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No. 2.

HOMESTEAD PAPERS, No. 1.

THE COUNTRY HOME--BUILDING SITES.

Probably the first desire of every one who designs making the country his place of permanent residence is to commence such improvements as will ultimately adapt his surroundings to his own peculiar tastes and likings. If his means will allow of the expenditure, he begins at once; if not, his intentions are but put off until that better time, which for all of us lies in the future, and which for many of us persistently stays there. To every one, however, who thinks of purchasing property, or of improving that already in possession, a word of advice as to the best manner and mode of adorning and beautifying the house and grounds about it can scarcely fail to be of service.

And first, not only in its regular order, but in importance to the well being of the family; to its health and comfort, and also as offering the greatest facilities for working the land to advantage, is the judicious choice of a building site. To those upon whose land buildings are already erected, and where there is neither desire of change nor profit in it, our suggestions, of course, are not addressed, but only to those who have the trouble of building yet before them. That it is a trouble and a strong trial of patience those who have undertaken to build and improve, and who have carried it through from the moving of the first spadeful of earth to the painting of the last window shutter, will certainly testify. They will acknowledge, nevertheless, that the after satisfaction of living in a dwelling fashioned according to their own tastes—the creation, as it were, of their own hands—goes very far towards repaying the vexations that so often arise whilst the house is in course of construction.

All other things being equal, the site should possess the advantage of elevation. A moderate knoll will do if no better situation offers, and in many of our Southern States this is the best that can be done. In most parts of Maryland and Virginia there is no difficulty in finding high and healthy positions. Except in the low alluvial lands in those States, it

is rarely that one does not meet with an abundance of sites adapted to building purposes. In such cases there is no excuse for selecting low situations for the homestead whilst there is higher ground, purer air, abundance of shade and a sufficiency of water within the limits of the property, and of easy access to the public road. Nevertheless, no one can travel through the States in question without noticing how often these advantages have been neglected. This would hardly have been the case if the unhealthy and depressing effects of placing the dwelling on low grounds, frequently damp and often shut out from even the most limited view of the neighboring country, free air and the purifying effects of sunlight were better understood. We wish it were possible for all our farm houses to come out of the damp, ague, rheumatic and consumption breeding valleys, into the broad, open, healthier life of the hills. We are confident that it would produce a marked change for the better in point of sanatory effect, and in the more cheerful influences with which it would surround the home life of the farmer.

By all means then let the improver build upon at least moderately high ground, if there are any such upon the farm, and the site be otherwise adapted to facilitating the proper working of the farm. When occupying a central position, the convenience of transportation will be best secured and much time will be saved in reaching any given point. The advantage of so placing the buildings, however, is never of such controlling importance as to overbalance the weighty objections that may often be urged against it. If the building is much better on an angle of the land, or on one of its sides; if from these points the view is finer, and the fields lie more open to the eye; if there is water near at hand for the supply of the house and barn, or if the property is but of a few acres in extent and oblong in shape, and by building at one end of it greater depth and more striking effects can be produced, then the building appropriately belongs there.

Among all the situations generally regarded as the fittest and most suitable for building purposes, there are none that appeal with greater force to the farmer's idea of convenience and comfort than such

as offer an abundant supply of pure water. There is so much of it necessarily used in the family, and facility of access to it is so important, both to the family and the farm stock, that a never failing spring or stream near to the dwelling and barn is a convenience for which he will often be contented to sacrifice nearly all other considerations. But whilst the great importance of having good spring water near to the house and barn is admitted, we are convinced that the very general plan of placing the house on the lowest and dampest part of the farm, in order to obtain this advantage, cannot be justified on hygienic grounds. Instead of bringing the house to the spring, why not bring the spring to the house? In thousands of instances, and by the modern devices of rams and water wheels, this can be accomplished at very little, if any more cost, than sinking a well.

Wherever, then, there is rising ground within easy distance of a spring or rivulet, it is far better to place the house either on the crown of the knoll, or at some distance down the slope, for too much care cannot be taken in selecting a dry and well drained locality for building. The life of a farmer being eminently a domestic one, the health of the household is a primary consideration, and nothing is better calculated to secure this result than that the house in which its members spend so much of their time should be thoroughly dry throughout, and as open as possible to air and sunshine.

Physicians in extensive practice and of well-known reputation have repeatedly warned the public against dampness and the exhalations arising therefrom as a prolific source of disease. Instances of consumption, of fevers of various kinds, and of other maladies have been repeatedly and directly traced to the fact of the dwellings having been placed in low situations, and to dense shade, improper ventilation and deficiency of warmth and sunlight. They tell us, and experience confirms the opinion, that wherever it is possible the house should be built on soil which is naturally dry, and from which the moisture arising from the rainfall passes off quickly, and that in tenacious soils drains should be constructed for the purpose of carrying off any accumulation of water about the premises. For the benefit of sunlight, as well as for protection against northern blasts in winter, and to catch the summer breeze, the front of the house should be to the south or southeast in all cases where the lay of the land renders such a frontage available. The aspect most desirable of all is that which faces the south, and which furnishes the opportunity for making an early and well sheltered kitchen garden facing the morning sun. But whilst ample protection against cold winds is desirable, both for the garden and the house, the front portion of the latter should be left

well open to air and sunlight, and even the trees and shrubs at the rear and sides should not approach too closely lest their shade generate dampness. A belt of woods to the north and west, with scattered groups of trees and shrubs nearer to the house itself, is all that is needed for exposed situations.

ABOUT PLOUGHING.

There has been a good deal of discussion of late, in the Eastern States, in regard to the proper depth at which land should be ploughed, and a good many crude ideas have been ventilated on the subject. But we take what is called "the experience" of the New Jersey farmers as worthy of special comment. Among these the opinion is strong that land should not be ploughed at any time deeper than four inches, and one practical farmer asserts that the best crops are made when the plough is not allowed to run to a greater depth than three inches. The inference conveyed by these statements is that all ploughing ought to be shallow, and that the modern theory of deep ploughing is not only erroneous, but that it injures the crops. The error in this lies in taking a special instance and a peculiar soil and adopting it as proper for all kinds of soil. The truth is, the soil of the greater part of New Jersey is either a light sand or one into which a large admixture of sand enters into its composition. Now, in sands, and in sandy loams in which sand predominates, the theory of shallow ploughing will hold good, unless the underlying subsoil within easy reach of the plough is of a superior quality, and requires only to be broken up and pulverized to add largely to the fertility of the entire mass. The probability is that the subsoil of the light lands of New Jersey, or at least of those lands to which the farmers alluded to refer, is of a bad quality, and contains ingredients that are really injurious when mixed with the surface soil. It may be, however, that the sandy soil is of considerable depth, and in that case the looser it is made by deep ploughing the more readily the manures put upon it filter through and are lost to the crops. In either case shallow ploughing is proper, and the course pursued by the New Jersey farmers is exactly what experience would dictate to any observant man. A similar rule will apply to all sandy soils of a like character, both on the Eastern Shore of Maryland or elsewhere. But there are soils which have a sandy surface that are greatly benefited by deep ploughing. These soils are what are known as the alluvial formation—many of them have been partially exhausted by shallow ploughing and overcropping; but when the plough is forced down to the rich alluvial deposit below, the process of renovation is rapid and easy. We say, then, it is only on deep

sands of the lightest texture, and on sands which lie on a deleterious subsoil, that shallow ploughing is applicable. In all other cases deep ploughing should be the rule.

Nevertheless, there is one thing to be guarded against—the raw, fresh and sometimes sour subsoil should not be brought to the surface. It should be deeply stirred and pulverized by the use of the subsoil plough, but should not be otherwise disturbed in its bed until it has been mellowed and sweetened and aerated by rains and melting snows, and by atmospheric influences. After this has been done, and not till then, the plough may annually bring up a portion of this sweetened and fertile subsoil to the surface to be mixed with it, until gradually the entire mass to the depth to which the subsoil plough was run becomes thoroughly incorporated with the surface soil. It is neglect of these precautions which has so often discouraged those who have undertaken to deepen their thin soil with the plough. But to those who are disposed to test the method we have described, the use of a subsoil plough is not absolutely necessary. A common plough running in the same furrow will answer a similar purpose. The condition to be observed is that the raw subsoil *shall not be brought to the surface, and the old surface soil buried beneath it*, but that the subsoil after being broken up shall be allowed to remain undermost to sweeten and to give to the chemical action of the soil to render soluble the fertilizing constituents which have so long been locked up in it.

But there are many soils of heavier texture which can be profitably ploughed deep at once. There are, indeed, large bodies of land everywhere of this character, whose subsoils are of the finest quality, and require only to be deeply stirred to be brought into immediate use. The constant passage of the heel of the plough over such subsoils renders them dense and compact and often impervious to water, and thus they acquire the character of what is popularly known as “hard pan.” If such subsoils are broken up deeply the best results are almost sure to follow. Still even in such cases it is advisable not to mix them with the surface soil at once and in large quantities, but gradually as their texture improves and their salts become soluble.

WHY CATTLE AND OTHER STOCK DIE TOWARD SPRING.—When the stock is not regularly fed, and the supply of respiratory food is deficient nature avails herself of the fat previously stored in the animal's body as fuel to sustain the animal heat, and where the food is deficient and there is no accumulation of fat to supply its place, the muscle and other portion of the body are consumed, and death by gradual starvation is the consequence. Farmers, keep your stock well fed if you do not want to sus- losses toward spring.—*Farm Journal.*

Our Agricultural Calendar.

Farm Work for February.

As the usual pressure of spring work is now about to commence no time should be lost in getting ready for it. The present open winter may or may not presage an early spring, but it happens not unfrequently that there are two weeks in February in which singularly mild weather prevails, and during which, under favorable circumstances, as to soil and situation, much ploughing may be done. At all events if the opportunity occur advantage should be taken of it, whilst if there should happen to set in a short season of hard but dry weather, a good deal of the manure which has been accumulating in the barn-yard during the winter may be turned over and hauled out to the fields where it is to be used for spring crops. If the manure is to be applied to the land on which corn is to be planted, the best method is to make one heap of it in the centre of the field and to protect it until wanted from the influences of the weather either by six inch coating of soil—provided it can be had—or by a thick covering of woods earth, leaves, corn stalks or straw. To put it out in small heaps so long before it is to be scattered and turned under is to waste the richest portion of its substance, whilst to let it remain in the barn-yard until wanted is to occupy precious time in hauling when the teams are wanted for other purposes. On small farms and for short distances of course the case would be different, and the manure may best be hauled out and spread as the ploughing progresses, but even this in many instances involves, either the use of extra teams or the stoppage of the ploughs until the manure is hauled. Now, also particular attention should be given to the farm stock. The food of the working cattle should be of the best quality to fit them before hand for the arduous labors of the season, whilst that of cows in calf, or of cows which have already calved, should be nutritious and succulent. Indeed all the stock will now be benefited by messes of roots, and by an occasional change from the dry provender to which they have been accustomed through the winter, but which as the spring approaches, they eat reluctantly. The work for the month is as follows:

Collecting Manure and Making Composts.

Seize every opportunity to collect materials for compost heaps. Whenever an available force can be applied to this work it cannot be better employed. Nothing that is of vegetable or animal origin comes amiss in the making of composts, and by fermentation with barn-yard manure the supply may

in many instances be more than doubled without injury to the fertilizing properties of the mixture.

Ashes and Slops.

Wood ashes and soap-suds abound in fertilizing ingredients and should be carefully husbanded.—Used in compost heaps they are invaluable for the potash and other salts which they furnish.

Out-buildings.

Keep these in good repair, and to preserve them give them a good coat of whitewash, or—better still—mix either ochre or venetian red, or a small quantity of lamp black with the whitewash according to the color which may be most desirable.

Fencing Stuff.

Get out in the woods such fencing stuff as may be required for the uses of the farm, haul the logs into posts and rails, and either haul the latter to some place where they can be stored away until wanted, or stack them in the woods to dry and haul at leisure times.

Cleaning Out Fence Rows.

Clean out the fence rows, grubbing up all bushes and briars and cutting down all trees whose shade injures the adjacent soil.

Sowing Clover and Orchard Grass Seed.

February is frequently an excellent month for seeding down to clover and orchard grass in fields that are in winter grain. These seeds may either be sown on the snow—if there should happen to be any—or if the frost is out of the ground, the seed may be sown among the grain and lightly harrowed in—following immediately with the roller. Sow not less than 12 lbs. of clover and a bushel of orchard grass to the acre.

Ploughing.

In light dry soils ploughing may now be commenced if the season is open enough to admit of it. Clay soils, or soils in which clay predominates, it would be injudicious to plough whilst they are at all wet, as they will clod badly under such circumstances—when, however, clay or partly clay soils crumble in the hand they may be ploughed to advantage.

Tobacco Beds.

Attend early to the preparation of seed beds for Tobacco—so that if any injury happens to the young plants, another seeding may take place in time for the plants to be pricked out for open field planting at the proper season.

Wagons, Carts, &c.

See that all needful repairs are made to these and to such implements as are to be brought into use during the spring operations.

Store Hogs.

Feed these regularly. Keep their sleeping apart-

ments comfortable and dry, and supply the pens occasionally with fresh litter to be worked up into manure.

Breeding Sows.

Each breeding sow should have a separate pen, and should be furnished regularly with a good supply of food sufficient to keep her in vigorous health but not enough to fatten her.

Milch Cows.

Feed these during the present and succeeding months with nutritious food diversified with slops and occasional messes of roots.

In Calf Cows and Heifers.

Especial care should now be taken with cows about to calve. They should be fed regularly three times a day—should have free access to pure water, and comfortable bedding in their stalls. Young heifers also require, at this season, some extra attention to keep them in vigorous growth.

ALSIKE CLOVER.

A subscriber at New London, Pa., writes: "Having noticed in the *Rural* frequent reference to Alsike clover as being superior to the old red for herding purposes, I am disposed to favor its introduction in our vicinity, and would like information for procuring seed and other things connected with the crop." To all of which we may say, first, Alsike clover is a white flowered species, grown extensively in Sweden, in the district of Alsike, hence its name. It has the reputation of possessing the strength and vigor of the red with the permanency of the white. Knowing that Mr. I. S. Thompson, Erie county, N. Y., had for some years grown this clover, we submitted the matter to him, and through his son, G. W. Thompson, received the following interesting statement:

"As regards feeding any kind of stock, I regard the Alsike far ahead of any other kind of clover, either for pasture or hay. It grows so fine and is so sweet that cattle and horses are very fond of it.—To mix with timothy seed I regard it as also the best, as it is fit to cut about the same time as the timothy, for which reason it is preferable to the medium red clover, which passes its best point for hay before the timothy is sufficiently forward to be cut; so loss is suffered on one or both.

"For plowing in as a fertilizer I prefer the red, as it grows large quicker than Alsike, which makes but small growth the second year after seeding.—As to the land, it is useless to sow Alsike on very dry or poor soil, as it delights in a good, moist soil, and on such will grow more and better hay after the second year than any other grass I know."

Thus, our readers have the opinion of intelligent, practical farmers who have experience with this clover, and are not interested in the sale of seed, which, by the way, may be had of any of the seedsmen of this city and of others who advertise in our columns. —*Rural New Yorker*.

Garden Work for February.

We are now approaching the season of open air culture in the garden, and due preparation should be made accordingly. Manure in liberal quantities should be hauled out. It should also be well fermented to destroy the seeds of weeds, and likewise should be of the richest quality. It should not be taken from the barn-yard until the frost is out of the ground and the soil in fit condition for the spade. When carted out the manure should be dug in immediately and the beds left rough until required.

Sowing Seeds.—Every farmer should have a hot bed. The mode of constructing is so simple and the cost so trifling that few need go without one.—Assuming then that there is a hot bed in the most sheltered portion of the garden, or somewhere adjacent to it, and that the bed has been formed, the light put on and the heat risen, now is the time to sow the seeds of early and late cabbages—of tomatoes, egg plants, lettuce, celery—and, if need be, of those rare but excellent vegetable the cauliflower and broccoli. If there is a spare frame, or room to spare in the frame in use, sow also radish seed, for an early supply of radishes.

Celery in the open Air.—As soon as the frost is out of the ground, choose a warm border and after thoroughly preparing the soil sow the seed of celery, to succeed the plants raised in the hot bed.

Peas.—Peas are among the hardiest of spring vegetables, and will stand a frost that would kill many other plants. Sow early, as soon as the frost is out of the ground, and plant the seed rather deeper than usual, as the vines will remain longer in bearing.

Spinach.—Spinach also is hardy, and will even stand the winter ordinarily with a light covering of straw. It requires a rich soil to bring it to perfection, and also to give it that rapid growth upon which its succulence and anti-scorbutic properties so much depend. As soon as the frost is out of the ground select a bed well protected from the north wind, dress it heavily with the best manure, well rotted, and after spading and raking, sow as many rows of spinach as the wants of the household demand. Drill the seed in thinly about an inch deep, and make the drills about twelve inches apart. If frost sets in scatter a little straw over the bed.

Parsnips, Carrots and Beets.—The best soil for these roots is a light sandy loam. No manure should be applied except it be such as is thoroughly well rotted, and the best method is to use a bed which had been richly manured the previous season. Seed the carrots and parsnips in drills eigh-

teen inches apart, and make the drills for beets, two feet apart.

Grape Vines.—Prune these before the sap rises—and dig in slightly about the roots of the vines a compost of wood ashes and bone dust.

Raspberry Vines.—Trim these and tie them up. Fork well round each vine to make the soil light, and manure freely.

Gooseberries and Currants.—Prune these towards the middle of the month. Dig round the roots and apply a good dressing of manure. If cuttings for new bushes are required take only such as are from shoots of last years growth—allow twelve inches for each cutting. Rub off all the eyes but the three or four at the top that are to form the future head.—Now plant the cuttings in a well prepared bed, and in a situation where they will be partially shaded until they take root. Water freely in dry weather. As soon as the plants are well established they will take care of themselves.

Tappahannock Wheat in Maryland.

A correspondent in the monthly report of the Agricultural Department, writing from Baltimore County, Maryland, says: The Tappahannock wheat that was distributed by the Department has proved a valuable variety generally. The Mediterranean is still extensively sown in this county, north and south, and is yet the champion wheat. It has been sown and resown on the same soil, until it has deteriorated very much, but it is still considered a sure and reliable variety. Farmers are to be blamed themselves that wheat is deteriorating so rapidly. Too thick seeding is a great evil; it is the cause of the many small heads and kernels, weak and sickly stalks, with the berry not brought to the full development. The wheat is again sown and resown, and deterioration is the consequence. The small and sickly grains should be carefully separated by screens, &c., and only good and plump seed sown. Sowing with the drill is a great improvement, and one and a quarter bushels per acre is sufficient seed. If the Mediterranean should be again imported in its prime state it would undoubtedly be a great benefit to the country.

The Talavera wheat that was sent to me was carefully experimented with by myself and two other practical farmers; the result was a failure. This variety may be adapted to more northern climates. The Saxonian barley, White Schonen oats, and Black Swedish oats, were each carefully sown by myself and three other practical farmers; each variety proved valuable, the Schonne oats in particular—a magnificent variety.

If a young lady has a thousand acres of land, the young men are apt to think that there are sufficient grounds for attachment.

FOR THE MARYLAND FARMER.

BOOK FARMING.

ITS LIGHTS AND ITS SHADOWS.

If there is a subject which is misunderstood and misrepresented among the masses of farmers and farm workers; among those who have long tilled the land, and those who are just beginning to till it; if, among all the mysteries which perplex the mind of the husbandman there is one pre-eminent-ly obscure, it is the subject and the mysteries indicated by the first two words of this article, and so strong has the prejudice against book farming become in many minds, that it is looked upon by these minds as a new and different system, organized under a new and specially distinct class of principles, connected, it is true, with the cultivation of the soil, but in no manner associated with the practical operation of a successful and profitable husbandry. *Processes* have changed so greatly within the last fifty, and even twenty-five years, and so rapidly within the last fifteen years; so many implements and machines have been introduced during that time for which such remarkable qualities have been claimed, and which many of them have upon trial failed to exhibit *profitably*, that he who cut his grain with a sickle might have been justified if he paused, startled and incredulous, unable to comprehend these vigorous leaps of inventive intellect, or the stranger statements of the teachers of chemistry as agriculture bound the disciples of this deep and mystic art to her chariot, and made them thenceforth her loyal champions.

Within the space allotted to this article we cannot enumerate the advantages which the development of the sciences has conferred upon the agriculturist, nor mention, in detail, his departure from old processes and the stricter conformity of his plans to the new. Our purpose is to exhibit a few phases of the shadow as well as the light which these developments cast upon the labors of the tiller of the soil. There are two classes to whom book farming presents itself under a strange aspect, and to prevent these two classes from the errors into which they frequently fall, is the object for which these remarks were designed. One of these classes is composed of the inexperienced, who move into the country from cities and towns, from the trades and professions, to conduct a business with whose operations they are only partly acquainted, and of whose details they are entirely ignorant. The knowledge of this class of its respective vocations, as well as of the world and its transactions, is mostly derived from books and periodicals; these have been their guide and instructors in the past, and relying still upon that class of teachers, they select a class of litera-

ture adapted to the requirements of their new vocation, expecting thereby to supply the deficiency of their own education. Unwilling to ask advice from those qualified to give it, the individual commences operations upon the slender resources of his inexperience and a monthly periodical, and this capital invested in any other business could end in nothing but a certain failure. He reads an account of a remarkable crop of corn obtained from a certain number of acres. The account states the land was plowed twelve inches deep in the fall, harrowed twice in the spring, and cross-plowed same depth, harrowed and cultivated again several times, and planted in drill in rows thirty inches apart, nine inches apart in the rows. Without ascertaining any particulars concerning the locality, climate, soil or seed, he follows these directions minutely; plows land a foot deep that had never been worked at half that depth, plants in drill on a side hill on which it will be impossible to throw the dirt to the upper row, and uses a seed to which belongs a great luxuriance of foliage and strong growth, and plants nine inches apart a variety which needs four feet for its successful cultivation. He reads that the land should be kept well stirred, and stirs his land constantly, with very little or no attention to the state of the land or the dry weather, or to circumstances which always modify any specific declaration concerning the cultivation of the soil.

His land for small grain is prepared according to a certain formula, good perhaps when climate, soil and seed are adapted to it, but entirely deceptive under altered circumstances. He reads of the sixty pound cabbage, the two feet beet, the five feet pea, the variegated cucumber, the new strawberry, the big potato and the awful squash, and smiles in the fullness of his prophetic soul as he looks in conscious superiority upon the less lofty flights in agricultural agility of his less gifted neighbors.

Relying upon his books for all essential directions in regard to the main operations, he is lost at sea when it comes to the details. If his land is heavy he works it too wet, and the burning sun bakes it solid. If light, he works it too dry in the drouth of the summer months. Plants that should be thinned out are left too thick, and those that do not require it are left too thin. He pulls his beets when the ground is like a brick, and sets out his cabbage plants at noonday unsheltered, and laughs heartily at the neighbor's folly of putting a big burdock leaf over the tender plant to keep it cool. He provides himself with a variety of expensive implements and apparatus, which, if properly used, would be invaluable adjuncts to his onerous labors.

Seed time passes and harvest comes, but not for him. The land is too rough and the grain too low to think of cutting it. The garden is a good exhibi-

bition of variety and industry, but a lamentable proof of the results of misdirected energies. The striped bug has eaten up all his watermelons, canteloupes and cucumbers; the sun has burned up his cabbage plants; the awful squash did not come up, and the big potato was planted too deep to be heard from thenceforth.

The corn shows only what good small fodder can be raised by that process of cultivation. These are the errors of the inexperienced.

The other class commits the same errors in quality but not in quantity. Impressed by the necessity of a better mode of tillage and the forcible reasoning the individual of this class meets of the superiority of a certain mode, he adopts it, but upon too large a scale for an experiment. He deviates too largely for a commencement from the practices to which he has been accustomed, and with blind obedience to details picked out here and there, he neglects to study the principles which the system as a unit—a harmonious whole—presents to its followers. Results to him are necessarily unsatisfactory, and he settles down into the old rut, seeing no medium between the two extremes, and becomes ever after a determined enemy of book farming.

The individual of the first class, discouraged, not so much by the pecuniary loss, which has been very heavy, as the vast discrepancy between labor, skill and his outlay of energy—and results, concludes that an explanation of the mystery will not justify further efforts, and abandons his undertaking.

Now, what bearing do the failures of these parties have upon the correctness of the principles of scientific agriculture? No more than the failure of a merchant would have upon the principles of mercantile success, if he brought that failure upon himself by neglect of those principles; and as an illustration of my meaning, I can do no better than quote here the declaration of your modest but able and profound correspondent, "Patuxent Planter," in regard to the principles of success in agriculture.—"The same ability, energy, capacity and industry, which will make a man successful in any other calling will make him successful in agriculture, and without these he will fail in this as in any other vocation."

Does a man launch boldly upon any trade or profession or pursuit without previous experience and discipline? Can the lawyer, the physician, or the minister—the merchant, the mechanic, or the seaman—who spends years in preparation before entering upon the duties of his calling, reasonably expect immediate success in that art upon whose prosperity depends all arts; in that science to which all sciences contribute the stores of their acquisition, and to which they look as the foundation and pillar of their own prosperity?

It is true that among the immense quantity of matter that is constantly being published and circulated by the agricultural press, errors do occur. Every investigating reader of agricultural matter has discovered statements, which, if not false in fact, were contrary to his own experience; but in this as in other things, too much faith, which often is another word for credulity, is a great barrier to true progression.

Applied, then, to agriculture, the elements of success would interpret its teachings in no ambiguous language: it says, plow deep, but if the land has hitherto been plowed but four inches deep, plow a small land a half inch deeper; another one a half inch deeper still, and another one still deeper, and wait for the result. This will occupy a number of years, but the practical farmer has two objects in view; he must make the land profitable as well as rich. It is a matter of dollars and cents with him, and although land *could* be made better by more expeditious means, it could not be made profitably better by him in any other manner; and this gradual change in stock, seeds, tools, machinery and the processes of husbandry would not be productive of the regret and dissatisfaction which a violent and radical change generally produces; but the improvement should be constant. Every season should witness better buildings, better tools, better stock and seed, better plans, and in the train of all these will follow better harvests and increased comfort on every hand, and if this gradual change could be general, American husbandry would soon cease to present the low and humiliating averages the statistics of our productions invariably exhibit.

To the beginner, we give a caution that would be unnecessary in regard to any other pursuit—for no one would think of directing the voyage of any other vessel without first learning from others the precise nature and locality of the obstacles to be encountered—plow and sow and reap precisely as your neighbors do, and should your judgment suggest any modification of their processes, let them be made with that caution, which, directed by sufficient energy, is, in agriculture as in other callings, the parent of success.

D. L.

MARYLAND AGRICULTURAL COLLEGE.—The board of trustees of the Maryland Agricultural College have elected Capt. Alfred Herbert, by a unanimous vote to the chair of Agricultural Chemistry and Natural Sciences in that institution. Capt. Herbert is a native of Prince George's county, Md., graduated at West Point with distinction, and served in the Florida war, where he was brevetted for good conduct and gallantry on several occasions. Since his retirement from the army he has been at the head of military and scientific schools in South Carolina, and also engaged in civil engineering.

DOES THE WHEAT CROP PAY?

EASTERN SHORE, Jan. 1st, 1870.

To the Editors of the Maryland Farmer:

In reply to your inquiry, "Does the wheat crop pay?" in October number, 1869, page 291, I will now forward you a statement of my crop of last year (1869,) which was a year very favorable for the wheat crop. Twelve acres of fallow, flushed under clover sod, and used no phosphate at all; land medium; enriched solely by the application of barn-yard manures and lime, and is naturally a good white clover soil.

Aug., 1868—First breaking of ground.....	\$18 00
Sept. Rebreaking.....	9 00
First Harrowing.....	4 50
Second Harrowing.....	4 50
1 1/2 bush. seed wheat, at \$2.10	31 65
Sept. 24, 25.—Drilling.....	6 00
10 mos. Interest on cost at 6 per cent..	3 83
Taxes on land.....	2 37
Loss of grass, at \$1 per acre.....	12 00
June, 1869.—Harvesting, Binding and Stowing.....	14 25
Board of Hands.....	5 40
Raking.....	1 00
Hauling and Stacking Raked Wheat.	2 50
Hauling and Stacking Wheat.....	4 50
Stacker \$1.50 per day extra.....	2 25
Machining 141 bushels, at 4 cents.....	5 64
Hire and Board of Hands.....	13 30
1 1/2 days Hauling to land—8 miles—4 horses, man and wagon, at \$2.50 per day.....	3 75
Breakage in Wagon	2 00
Freight, Commissions, etc., about 8 1/2 cents per bushel on 146 bushels.....	12 41

Total cost.....\$161 85

SALES.

111 bushels of Wheat, at \$1.53.....	\$215 73
5 bushels Sweepings, at \$1.10.....	5 40
	221 13
	59 28
Four stacks of Straw, usually sold at \$5 per stack..	20 00
	\$79 28

Twenty acres of corn ground, land, &c., corresponding in every particular with the fallow; no phosphate used either on the corn or wheat:

Oct., 1868.—Ten acres ploughed in Ridges.	
Cost of Seeding, including Board.....	\$7 80
15 bushels Seed Wheat, at \$2.10.....	31 50
Ten acres in sixteen feet lands.	
Cutting and Bunching Corn.....	5 25
Board of Hands.....	2 80
Cost of Seeding, including Board.....	9 87
Harrowing.....	3 37
15 bushels Seed Wheat, at \$2.10.....	31 50
10 mos. Interest on costs, at 6 per cent..	4 60
Taxes on land.....	3 95
June, 1869.—Cradling, Binding and Stopping.....	13 13
Board of Hands.....	4 80
Raking.....	1 50
Hauling and Stacking Raked Wheat....	1 50

Hauling and Stacking Wheat.....	4 50
Stacker, at \$1.50 per day extra.....	2 25
Machining 132 bus., at 4 cts. per bus..	5 28
Hire and Board of Hands.....	12 18
One day hauling 76 bushels to landing..	2 50
Freight, etc., on same.....	6 46

Total costs..... 154 75

SALES.

132 bushels, at \$1.53 (only 76 sold, 14 of which only brought \$1.37, being sold several weeks later.....)	201 95
8 bushels Sweepings, at \$1.10.....	8 80
4 stacks of Straw.....	20 00
Screenings of both fields.....	13 30
	243 06
Less freight, &c. of 64 bushels retained	5 44
	237 62
Nett Proceeds.....	82 87
Nett Profits of Fallow.....	79 28
	162 15
Less Straw.....	40 00
	122 15
Nett profit of Grain.....	122 15
Deducting 40 bushels of Seed sown this fall, at \$1.53.....	61 20
	\$60 95

In this statement I have made a charge of 40 cents per day for my horses (full day,) except at machining, where no charge at all was made. This account has been closely kept for my own satisfaction, and will any of your subscribers say that the "Wheat crop" has paid me? FARMER.

AMERICAN SUMAC.—A late despatch from Liverpool state that the importations of sumac from Sicily in one day amounted to 6,417 bags, and that in the same time 1,200 bags were shipped to the United States. These are daily occurrences, and invite attention. If it is not singular that American sumac is not exported to Great Britain, it is really surprising that such large quantities should be imported into the United States. The value of this article, as is well known, is in the proportion of tannin it contains, and its freedom from sand, grit, or vegetable fiber. Liverpool authorities state that numerous well-certified tests, of both Sicilian and American sumac, prove beyond question that the American is superior, to the extent of ten to twenty per cent., to the Sicilian. The varieties compare as follows: Finest Sicilian: tannin 23.65; sand 1.00; vegetable fiber 75 35—100. Finest American, Virginian: tannin 30.00; sand .50; vegetable fiber 69.50—100. Adding the fractional differences in these disparities the result shows 20.70 per cent. in favor of the Virginia product. This superiority is not confined to Virginia, however; an analysis of Tennessee sumac showing of tannin 26.00; sand 1.50; vegetable fiber 72.50—100.

EXHAUSTED FARMS.

There are four elements that go into the construction of every living thing, both animal and vegetable; these elements are iron, lime, potash and salt. Now it is evident to any thinking mind, if this be so, and any one of these elements be lacking, feeble results follow; for instance, take a very large, big-boned man, whose bone structure seems almost giant like, and which depended mainly on lime for their structure, and let such a man be deficient in iron and he is deficient in strength. Though his bones be sufficiently large to constitute a giant, yet how often we have seen his heels thrown high in the air by the quick movements of a strong closely-built small man, whose whole system was fully developed. Then again, give the animal all the elements and in proper proportions to the full development of every part until it has fully matured, and then cease or leave out only a small part of one of the elements and he soon ceases to be perfect; for instance, keep a man on wheat, with nothing taken from it, which in this state is one of the best articles of diet for the development and preservation of both mental and physical powers in use; now change the diet and give him what is termed the best brand of flour, and you will soon observe the difference both in mental and physical powers, for the reason that the greater portion of iron and potash is withheld.

As it is in the animal so it is in the vegetable kingdom. Farmers use the same sized dung-cart and haul to their corn and wheat-fields the same number of loads their fathers did, but fail to realize half the crops they did. After repeated trials they stop in despair and wonder what the matter can be. They look to the sky, but fail to find any fault there. Some one tells them the forests are all cut away, and that consequently there is not so much dew as there used to be; but not being very scientific they can't see the point. Still standing in doubt another comes along and tells them to add another plow to the beam and get two more yokes of oxen and put it in up to the beam. They finally think that must be what is needed, as the old surface has been plowed so long; and so, after much sweating and hard pulling, they have succeeded in turning the old black good-for-nothing surface eighteen to twenty inches out of sight, and in its stead have brought to the top a splendid light-blue, and with the usual amount of manure plant their crops. The result is best known to those who have done likewise; they finally get mad and run away out west.

Now, then, let us consider the cause of the deterioration of their farms. We will look first at the barn: here on the outside below the eaves on the boards near the ground, is daguerreotypied the per-

fect form of a dung-heap; but then what has that to do with the matter? Let us see: Through that hole just at the top of the picture has passed all of the solid and but little if any of the liquid matter that has passed through the animals kept in that barn perhaps for a century. This is indeed an important discovery for an intelligent farmer in quest of a farm. He at once corresponds with the owner out west and finally purchases it at a cost of a small fraction above the taxes on it. We ask him why he was such a simpleton to purchase an old worn-out farm when he could have bought one in its virgin state. He invites us into his laboratory and there answers the question by taking one pound of solid and one of liquid excrement from animals, and takes them apart, and proves at least to our satisfaction that there is about four times more *salt* and *potash* in the liquid than in the solid; we (having a vague idea of the requirements of vegetation,) see the point at once.

Now let us watch this new owner and see what he does. There is a cellar under the whole barn almost as tight as a house-cellar; he don't allow the sun to peep in nor a draught of air to pass through; in place of the old holes in the side of the barn is windows; we find him in damp weather under the barn with doors open, forking over manure, and occasionally see him apply water to some. We ask the reason for that. The answer is that it is getting too dry, and manure should always be kept moist till applied to the soil. Now we find him plowing; we observe he is breaking up ten acres of wet and ten acres of dry soil; he plows the wet in dry windy weather, the dry in moist damp weather; we ask the reason for this discrimination; he only answers, "I desire a good crop the first time, and if the seed is good and the season decent, I will get it." In ten or fifteen years the original owner returns (having exhausted his splendid virgin western farm) to find his old farm in grand condition, and the old barn once more full of sleek fat cattle.

MORAL.—Stay at home and stop abusing good nature, by returning all she gives you.—JOSIAH CLARK, in *Germanstown Telegraph*.

DEPTH OF SOWING.—A New Jersey farmer has experimented as to the depth of sowing wheat with the following result:

Seed sown to the depth of	Appeared above ground in	Number of plants that came up.
Inches.	Days.	
$\frac{1}{2}$	11.....	Seven-eighths.
1.....	12.....	All.
2.....	18.....	Seven-eighths.
3.....	20.....	Seven-eighths.
4.....	21.....	One-half.
5.....	22.....	Three-eighths.
6.....	23.....	One-eighth.

WHAT DO WE DRAIN FOR?

This question will be answered very differently by different farmers. The most common idea is that the object in draining is to carry off the surplus water. This idea is good enough as far as it goes, but it is but one of the many benefits derived from draining.

If a lighted candle be held at the outlet of a good tile drain, we will find that there is a very good draught inward, and that the strength of this draught is proportionate to the length of the drain. Here then is a supply of air rushing up the drain, but what becomes of it? It passes out through the soil to the roots of the plants growing thereon. This supply of air from below causes the roots to run deep, and thus enables the plants to withstand a dry season.

It is a well established fact that any soil is greatly benefited by water passing through it; hence the benefit of rain. On drained land, the rain-water, instead of running off and washing away the soil, sinks readily, and as it opens a passage through the soil is followed by the air from above.

It seems to be a fixed idea that "it will not pay" to drain land on which the water does not stand after a rain; but in England, where draining has reached a high state of perfection, it has been found that *any* land may, be much benefited by draining. In addition to the above mentioned benefits, the following may be enumerated:

It prevents the winter-killing of the crops, such as wheat and grass. Wheat and grass are often killed or injured during the winter by the water in the soil freezing and causing it to expand. Good drainage removes this water, and thus obviates the evil.

Draining is equivalent to lengthening the season, for the soil warms sooner in the spring, and does not part with its heat so soon in the autumn as undrained land. Thus, drained land can be worked without injury much sooner in the spring, and much sooner after a wet spell, than undrained land.

We know that when water evaporates, it carries off a large amount of heat. In undrained land a large proportion of the water at or near the surface is evaporated, and robs the soil of a large amount of heat, which should benefit the crop. Where the land is drained, this water, instead of being evaporated near the surface, is carried down through the soil, and discharged by the drain. After a shower the water on the surface sinks to the drains, and is soon carried off, but by its passage through the soil, it opens the pores of the soil, and as soon as the water is gone, they are filled with air from the surface and from the drain. All soil contains various metallic salts which are injurious to vegetation: the

air by coming in contact with these converts them into *oxides*, which are either beneficial to or do not affect vegetation. The air has the power of decomposing any vegetable matter it may meet with in its passage through the soil. A warm rain falling on a drained soil sinks through, and imparts its warmth to the soil.

Some would be disposed to think that it cannot be a good plan to remove the water from the soil during dry weather; but practice has proved that drained soils suffer much less from long-continued drought than these which are not drained. This is easily accounted for; the air which passes along the drain is charged with a large amount of moisture, which it imparts to the soil while passing through it.

Many soils contain a portion of the sulphate of iron; the air coming in contact with this compound will impart to it additional proportion of oxygen, and thus form a peroxide of iron. The sulphate is injurious to vegetation and the peroxide healthful.

It has been found by repeated experiments, made in England, that the cost of judicious draining is repaid every three or four years. The average cost of draining English land is about \$30 per acre. If this would increase the wheat crop but five bushels per acre, it would give an interest of 25 per cent. on the cost, or would repay the outlay in four years. Draining is very beneficial in the North, where the seasons are short; for a crop on drained land will ripen ten or fourteen days sooner than one on undrained land. Another benefit of draining is the improved health of the country, which is a very important consideration with

Your friend,

AGRICOLA.

—Germantown Telegraph.

WHAT FEED MAKES THE MOST VALUABLE MANURE?

—The following table, prepared by Prof. Lawes, from actual experiments made in England, shows the comparative value of a ton of manure made from various kinds of food given to cattle. As but few have the work from which this is taken, it should be kept as a table of valuable reference. It does not increase our admiration of most crops, where manure is valuable, in a country where Indian corn can be grown so abundantly as in the great corn belt of America. But here is the table of values:

1...Decorticated cotton seed cake.....\$27 86	13...Indian corn.....\$6 65
2...Rape cake.....21 01	14...Malt.....6 65
3...Linseed cake.....19 72	15...Barley.....6 32
4...Malt Dust.....18 21	16...Clover hay.....9 64
5...Lentils.....16 51	17...Meadow hay.....6 43
6...Linseed.....16 65	18...Oat straw.....2 90
7...Tares.....15 75	19...Wheat straw.....2 68
8...Brans.....15 75	20...Barley Straw.....2 25
9...Peas.....13 38	21...Potatoes.....1 50
10...Locust beans.....4 81	22...Mangolds.....1 07
11...Oats.....7 40	23...Swedish turnips.....91
12...Wheat.....7 08	24...Common turnips.....86
	25...Carrots.....86

THE DIFFERENCE BETWEEN THE SOIL AND THE SUBSOIL.

Beneath the surface soil, in which we place our seed, and which is moved by the passage of the plow, we find what is commonly styled the subsoil, which though most similar to is often very different in composition from the surface soil. Though it does not contain the decayed vegetation which exists in the surface soil, it often contains much fertile matter which if brought to the surface would do much to enrich the surface soil. This is particularly the case when a hard, retentive subsoil underlays a rich, loose one; the lime, iron, magnesia, and saline constituents of the surface soil, having a greater specific gravity than the soil on which they lay or to which they are applied, naturally sink until they find a soil of their own gravity, which if the subsoil is hard and retentive is usually in the upper strata or layer thereof. This is of great and vital importance in subsoiling, for it is evident that in a subsoil of this kind, it would be very bad policy to bring to the surface six or seven inches of the subsoil.

Nor are the saline constituents of the soil all that are found enriching the subsoil, for anything valuable in the upper soil is soluble, and however hard and compact the subsoil may appear to be it is more or less penetrated by water, which takes with it and deposits the fertility of the surface soil. It often happens that the farmer who practices subsoiling will on this account receive more benefit from the first brought to the surface than any subsequent operation.

The following analysis of the surface soil with its adjoining subsoil from the banks of the Ohio, made by Johnson, will probably best show the difference between the two. They were found to contain of—

	SOIL.	SUBSOIL.
Silica - - - - -	87 143	94 261
Alumina - - - - -	5 666	1 376
Oxide of Iron - - - - -	2 220	2 235
“ Magnanese - - - - -	0 330	1 200
Lime - - - - -	0 564	0 243
Magnesia - - - - -	0 312	0 310
Potash - - - - -	0 120	0 110
Soda - - - - -	0 025	0 130
Phosphoric Acid - - - - -	0 050	trace.
Sulphuric “ - - - - -	0 027	0 034
Carbonic “ - - - - -	0 060	trace.
Chlorine - - - - -	0 033	trace.
Humic Acid - - - - -	1 394	trace.
Organic Substances - - - - -	1 011	trace.
Insoluble Humus - - - - -	1 072	trace.

From the above observations we can readily see that the effect of subsoil plowing and trenching, will vary with the character of the subsoil; if the latter is hard and compact it will probably arrest the downward passage of the water containing the valuable portions of the surface soil, which upon being again brought to the surface will of course enrich the surface soil; but if on the other hand the subsoil is light and loose, and of a texture not cal-

culated to retain the saline constituents brought from above, they will pass through it, and when it is turned up it may not only not enrich the ground above, but may for a time decrease the crops, for the only benefit gained seems to be that of deepening the surface soil, which even of itself is an important one. This may, in a great measure, account for the varied success which always attends subsoil plowing, and a more careful attention to the difference may be the means of preventing much disappointment, as has been the case with your new correspondent, but old reader.—*Cor. Germantown Telegraph.*

To Prepare Bones for Use as Manure.

Dr. J. F. Hodges, of Belfast, gives the following method in the *Mark Lane Express*:

Place in a wooden trough or tub, the bones broken into as small pieces as possible, and pour upon them one-third of their weight of boiling water, and, having steamed the mass so as to render the bones completely moist, add one-third of the weight of the bones of sulphuric acid and common vitriol of the bleacher, and mix the materials completely, by stirring them by means of a wooden shovel or old spade. The mixture may be conveniently made in an old sugar hoghead, and should be allowed to remain some weeks previous to being used. It may be mixed, if necessary, with dry peat, mould or real charcoal, or with sawdust; but lime should not be added to it. By carefully following these directions, the farmer may obtain a compound of high fertilizing value, and much superior to many of the specimens of dissolved bones offered for sale. The addition of slacked lime and soapboilers' refuse, which some persons occasionally use, should be avoided. By employing the bones, as described, the manure will be found to contain a large amount of soluble phosphate, which very few of the advertised manures afford.

Another method proposed by an exchange is the following:

In the first place, take a sledge hammer and break them up as much as you can. Then take an old hoghead and cover the bottom with two bushels of rotton chip dirt, or any good absorbent. Cover with ashes and throw in a bushel of broken bones. Cover them with the strongest unleached ashes. Those made from hickory, hard maple, beech and white oak are the best. Those from scrub oak, chestnut, pine or old rails or bark, will not afford potash enough to eat the bone.

Fill the hoghead with alternate layers of bone and ashes, and have plaster on top to absorb the gas. Keep in a warm place and moisten with soap suds. If it freezes up, the dissolving process is en-

tirely arrested. After several months, if the hog-head is upset, most of the bones will be found quite soft, if the ashes were strong. Those which are still unsubdued should go back and take another six months' sweat, and if you have some sulphuric acid, diluted with water, throw this on them with ashes. The manure thus obtained should be mixed with three or four times the bulk of peat, rotten sawdust or any other active absorbent. The difference between coarsely crushed bone and bone meal is one mainly of time. The finer the grinding, the quicker the action. As manure for orchards and grass lands, bones crushed to the size of a bean or a small walnut will have as much virtue in the end as bone flour, but no great effects must be expected the first year. A little salt mixed with the ashes will rot the bones. Burnt bones are a slow manure, and not more than half as strong as the unburnt.

CARTER'S DITCHING MACHINE.

The following account of a trial of this machine, which seems to have given satisfaction, we copy from the *Toledo Commercial*. In the December number of the *Farmer* we gave an illustration and brief account of this Ditcher, to which we refer the reader:

A few gentlemen visited the farm of Dr. Suaw, in Adamstownship, November 20th, to witness the working qualities of the Carter Ditching Machine. It was cold and rainy, but the machine was running and gave a full and fair exhibition of its merits. It cuts a ditch three feet in depth, eleven inches wide at the top and eight at the bottom. On Wednesday, this machine, in two hours and a half, cut a ditch eighty rods long and two feet nine inches in depth. It will cut about three inches in depth at each time passing over the ground. The dirt is thrown off to one side far enough to prevent it from falling or washing back into the ditch. Two large horses will draw the ditcher, but four of common size are necessary. Its construction is simple, its working exceedingly perfect, and its durability must be all that could reasonably be expected. It is cheap and is just what the farmers of this section need, for tile draining is necessary on most farms. Ditching with this machine would lose more than half its terror to farmers, since a whole farm could be thoroughly drained with but very little labor, as the ditcher is as easily managed as a plow and dishes out the bottom of the ditch in perfect order for the tile. All things considered, we do not hesitate to pronounce the Carter Machine superior to all competitors that we have ever seen on trial.

VINEGAR.—Take a common whiskey barrel and fill it with rain water. To every ten gallons of water, put one gallon of molasses. Boil one gallon of corn until soft, and add to the above.

DRAINAGE.

Having seen and had a good deal to do with drainage of land in Eng'land, I beg leave for the benefit of the farmers at large to give instances, and describe the mode, material used, and effect.

1st. The Right Hon. Lord Forrester, in Shropshire, England, had several hundred acres of cold, wet clay land under the plow. The grain was poor, late in maturing, and not average crops compared with other land on the same estate. On segging the drains it was found the wet lodged and the clay cold to a considerable depth, and it was decided to drain from four to five feet deep. Some laughed and others ridiculed the idea of putting in a drain five feet deep, and said, through such a stiff clay, the water would never find the drain. Scores of men were put to work, and the land was drained with two and a half inch pipe, the drains being 14 feet apart—not tile. The land greatly fell to the west. At the mouth of each drain outlet was a little iron door fixed to the pipe by a spring pushed into the pipe, the door being on an easy playing hinge so that if only a little water came out it was sufficient to force open the little door to admit of its flowing. The more water the wider the door was forced open—which opened and shut itself. Those doors were to prevent rats and moles from getting into the drain.

That effectually drained the land and made it some of the best wheat producing soils on the whole estate. For any person to take out or break one of those little spring drain doors, was in the eye of the law felony, and on conviction the offender was sentenced to not less than three months hard labor on "The Tread Mill" up to 7 years transportation, that kind of property coming under the head of "unprotected property."

Another gentleman had a deal of useless land which grew little else but rushes, the water lying on the surface for months in the year. That land was drained with one and quarter inch pipes laid three feet deep and the rows twelve feet apart. After it was drained it was deeply plowed in the fall, let lie till spring, then cross plowed, sowed with red clover and rye grass, let grow till next year, and when the clover was in full blossom, it was ploughed in the contrary way, just deep enough to cover the grass and clover, and in October sown with wheat (winter). The rushes had entirely disappeared and it was some of the best wheat growing land on that estate.

All drainage had used to be done with tile; a flat tile placed in the bottom, and then a 4, 5 or six inch drain tile placed on the top of flat one; but it was soon found out that, in filling, in the drain it frequently got broken or cracked, which in time fell

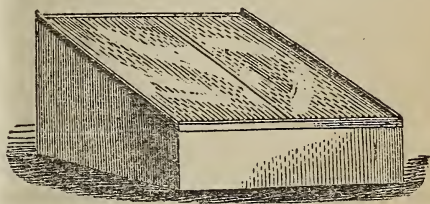
to pieces and then stopped up the drain. Pipes were then invented from one to six inches in the bore which were not easily broken by any pressure, being quite round, and if a rat or mole got in the drain he had no other alternative but to back out. The pipes one inch bore, are nine inches long, others of larger dimensions, ten to twelve inches long, and sold by the thousand, not by the foot. Another instance was near the town where I came from, about one hundred acres of grass land which could at will be flooded by the town sewer or brook. Surface drains or gutters were dug a spade width about six or eight inches deep in different directions about the fields, and the town water and filth turned on, and in a few hours the whole field would be inundated, it would be left inundated two or three days, when the bolt would be dropped and the water turned off. After a few years it was found the land became so rich, the grass so strong that while growing and looking well on the top it was rotting in the bottom, and it was found necessary to under-drain it. It was too rank for hay, and so it was always grazed by milking cows or fat cattle. The under drains were only about eighteen inches, buried, and was drained with one and one-half inch pipes. Let the summer be ever so hot and dry there was always grass in those fields.—JOHN WHATMORE, in *Prairie Farmer*.

PURIFYING CISTERN-WATER.—It is frequently the case that cistern-water becomes offensive and quite unfit for use, which in its pure state is the sweetest and wholesomest of all water. To destroy this offensiveness, lime has been recommended a large lump or two, but this must harden the water; charcoal is frequently used with good effect; but that which is most efficient, as a correspondent in Rhode-Island assures us, is to let the supplying spout run to the bottom of the cistern. The fresh water being heavier than the old, forces the latter to the surface and is thus consumed before it becomes offensive, and so on at each rain. This looks like being a remedy for what has been so much complained of, and will be an answer to many inquiries made of us on the subject. But there are certain conditions that should be observed by all having a cistern, the first of which is that it should be thoroughly cleansed twice a year, and the second that the conductors on the roofs should be served in the same way.—*German-town Telegraph*.

USE OF CLAY.—Clay in sandy soils, serve to retain the ammonia and other valuable materials, which would otherwise be washed away. It not only retains the decayed humus matter, but gathers the fertilizing matter in every drop of rain and stores it away for the plants. All sandy soils are improved by the addition of clay.—*Farm Journal*.

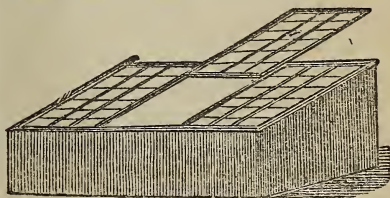
HOT-BEDS AND COLD-FRAMES.

By being protected at the sides and ends with boards, and covered with glass, they confine the moisture which arises from the earth, and thus the atmosphere is kept humid and the surface moist, and the plants are not subjected to the changes of temperature, as a uniform state can be maintained, no matter what the weather may be. The bottom heat of the hot-bed warms the soil, and enables the grower to put in his seed early, and obtain plants of good size before the soil outside is warm enough to receive the seed. Care, however, is required to prevent scorching the young plants. In bright days,



BOX HAND-GLASS.

the heat is intense inside the frame, and unless air is freely given, or some course taken to obstruct the rays of the sun, most likely a great portion of the plants will be ruined. When the sun gets pretty warm, give the glass a thin coat of whitewash.—This gives a little shade, and, with some air during the middle of bright days, will make all safe. The *hot-bed* is made by forming a pile of horse manure with the straw used for bedding, or leaves, some three feet in height. Shake all together, so that straw and manure will be equally mixed. It may be sunk in the ground a foot or eighteen inches, or made on the surface. On this place about five inches of good mellow soil. Then set the frame and



COLD-FRAME.

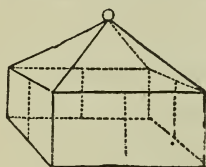
keep it closed until fermentation takes place and the soil is quite warm. It is better to wait a day or two after this, and then sow the seeds. The principal advantages of a hot-bed can be secured by what is called a *cold-frame*. This is simply a hot-bed frame, with sash, as shown in the engraving, placed upon a bed of fine, mellow earth, in some sheltered place in the garden. By the exclusion of air and the admission of sun, the earth becomes warm, and the moisture is confined, as in the hot-

bed. After the frame is secured in its place, a couple of inches of fine earth should be placed inside, and the frame closed up for a day or two before the seeds are planted. As the cold-frame depends upon the



LONG HAND-GLASS.

sun for its warmth, it must not be started as soon as the hot-bed, and in this latitude the latter part of April is early enough. Plants will then be large enough for transplanting to the open ground as soon as danger from frost is over, and, as a general thing, they will be hardier and better able to endure the shock of transplanting, than if grown in a hot-bed. A frame of this kind any one can manage. Watering occasionally will be necessary; and air must be given on bright, warm days. Shade also is necessary. These frames, when so small as to be conveniently moved by the hand, are called *hand-glasses*. A simple frame or box, with a couple of lights of glass on the top, will answer a very good purpose,



SQUARE HAND-GLASS.

though when small it would be better to have the front of glass. A very good hand-glass is made of a square frame, with a light of glass at each side and on the top. These contrivances, though so simple as to be made by any one handy with tools, are exceedingly useful, as they prevent the drying of the surface of the ground, and afford the plants shelter from sudden changes of the temperature, cold storms and frosty nights. The annexed engravings show several forms of which they may be made.—*From Vick's Catalogue.*

Dr. Phillips, of the Southern Farmer, thus presents an idea which the people of that section are too prone to ignore: "I say better have plenty of food, school-houses, churches, good roads, factories, improved homesteads, and twenty cents per pound for cotton, than gullied and worn farms, no comforts, corn at \$1.50, meat at 20 to 25, with cotton at 25 cents. These people are selling cotton now at 23½ cents, and, I venture my ears they will not have meat in June, and not a dollar. Why not make meat and have plenty, and no cotton? Why make cotton and spend all the money before six months and then no meat? I never run mad after a big crop. Bread and meat first, then all the cotton profitable."

PROTECTING MANURES.—A writer, speaking on this subject, says: "I have observed—and others have observed the same—a terrible negligence in regard to manures. In a large proportion of cases the cow-houses are so arranged that the excrements must be thrown out under the eaves. Here, exposed to all weather, it undergoes the various processes of drenching and drying, freezing and thawing, until much, if not most, that is valuable is lost by evaporation, or is carried off to nourish the growth of noxious weeds. Thus, a substance which might be changed to ingots of gold, is allowed to run to waste or become a nuisance, instead of a blessing. To remedy the evil, care must be taken to protect manures from the weather. Some other place must be provided for the excrements of cattle than underneath the eaves. A shed of some kind should be provided for this purpose. Where but few cattle are kept, an enclosure of slates, and a roofing of the same, or of old boards, bark or thatch, is far better than nothing. On dairy farms, an outlay of one hundred dollars, should the requisite protection require it, would prove more remunerative than if invested in bank, railroad, or in additional neat stock."

SKINNING ANIMALS.—The value of a skin for leather, depends considerably upon the care and manner in which it is taken off. An experienced tanner gives the following directions in regard to the cutting or opening of the hide before the operation of flaying:—"This is always best performed when the most of the skin is thrown between the fore and hind legs, leaving the hide square in its form. Tanners of upper leather know the value of this mode of skinning, by its increase of measure over the one practiced by many persons in sticking or bleeding the animal, by cutting its throat from ear to ear, and in opening the hide, not running the knife far enough up on the brisket before they cut down the skin on the fore legs; or not down far enough on the flank towards the tail before they cut through the hind leg."

WHAT DRAINAGE DOES.—Drainage removes stagnant waters from the surface.

Drainage removes surplus water from under the surface.

Drainage lengthens the seasons.

Drainage deepens the soil.

Drainage warms the under soil.

Drainage equalizes the temperature of the soil during the season of growth.

Drainage carries down soluble substances to the roots of plants.

Drainage prevents heaving out, freezing out, or winter killing.

Drainage prevents injury from drouth.

Drainage improves the quantity and quality of the crops.

Drainage increases the effects of manures.

Drainage prevents rust in wheat and rot in potatoes.

From the New York Evening Mail.

THE VINE IN EUROPE.

Recent Observations by an American Vine-Grower.

Practical Details for Practical Men.

BY CLARKE BELL.

FRANCE.

By far the most important of all the wine-producing countries of Europe or the world is France.

She produces within her borders every species of wine, from the luscious Malmsey of her South to the harsh products of her Northern provinces.

To a soil famed for its great fertility, a temperature in Summer of rarest warmth and skies as warm as Italy, she has added the great advantages which science has lent both to the culture of the plant and to the manufacture of wines, all of which have placed her far in advance of all other nations or people.

It has been well said of France that "she is the vineyard of the earth."

It is estimated that over five millions of acres of land in the Empire are devoted to the culture of the vine.

As long ago as 1823 there were over four millions of acres in France thus employed. The whole of France south of Paris may well be styled one grand region of the vine.

The grape blossoms, fruits, and yields its rich juices throughout all the length and breadth of Southern France, and its culture has been fostered, encouraged, and improved until the wines of France have become the best in the world, and this product one of the great and commanding resources of the French people.

Some portions of the country have obtained more renown for their vines than others, doubtless in most cases because more care has been given to the culture and more pains taken with the vine, but not unfrequently these differences are attributable to differences of soil and to local and climatic influences.

The District Of Bordeaux.

Perhaps the most important of the wine districts of France, and certainly the most important for clarets and still wines, are the districts in the vicinity of Bordeaux.

From Bordeaux to Libourne the soil is very rich, and the vines are set in the low grounds, far apart, and trained high on poles, frequently as high as nine or ten feet. Three poles are set to each vine, which are often connected by a wire, and upon which the vine is trained to spread. This culture is seen in the vicinity of Bordeaux and the plants are set about two yards apart in the rows, and the rows about three yards apart.

It is usual to leave a wider space between the rows of the vine every third or fourth row.

Medoc.

Along the western bank of the Gironde is the Medoc, which ranks the highest of all the districts of Bordeaux. The vine is the smallest in stature of any vine the writer has seen in Europe. It is

planted very closely indeed, and as near as one yard each way. The rows are set regularly, but occasionally, and at intervals of every fourth or fifth row, one row will be widened to about four feet, for facility of passage.

These vines are trained throughout the Medoc to little stakes about one inch in diameter, which are driven in the ground about one yard apart and only about eighteen inches high. On and along the top of these slight stakes a slat or wire is stretched the whole length of the row, through the vineyard, and at the end of each row a stronger post is set to hold securely the slat or the wire.

The vine is pruned very closely, and so trained that it never grows large or high, but all along this single low slat or trellis, below which and quite close to the ground hangs the fruit. In the Medoc the cultivation is almost entirely done by the plough, drawn by a single ox through and between the rows, and notwithstanding the nearness of the rows to each other and the smallness of the vines, the ox does this carefully and well. The ground is undulating, and terraces are not here used at all. The best varieties of the district are the "Cabernet," which is the principal grape, and the "Merlot," the "Malbec" or "Balouget" all of which are mingled in the wine, and it is here that the very choicest clarets of all France or of the world are produced.

The Bourg and Blaye Districts.

In the Bourg District and the Blaye District, which lie on the other and eastern side of the River Gironde, the topography of the country as well as the treatment and cultivation of the vine is wholly different.

In many places, although steep hill sides are found, yet no terraces are seen. The vines are planted further apart than in Medoc, and in most cases about four feet. They are trained on poles from six to nine feet in height, two and three poles to each vine, and occasionally a wire connecting the poles at about three or four feet from the ground.

In many instances a large space of land will be left at intervals of three or four rows, which space will be devoted to the cultivation of grain or roots. This strip, usually from fifteen to twenty feet in width, will be very highly cultivated and manured, the beneficial influence of which, it is claimed, is all ways extended to the vines on either side.

Notwithstanding the height to which the vine is here trained, the fruit is all kept quite low on the poles and never more than three feet from the ground, and usually much lower than that. The foliage and Summer growth is gathered together and tied in a cluster at the top of the poles.

Unlike the Medoc, the cultivation in these districts is almost entirely done by hand, although the plough and ox or horse is occasionally used.

It is quite impossible to enumerate the different varieties grown here, as they change constantly in every location and frequently in adjoining vineyards, and as a rule are purely local varieties.

The vine cannot compare in quality with the Medoc, although a very good ordinary wine is here produced, the chief market for which is Germany, Holland, and Belgium. These compose the most important of the red wine districts of Bordeaux.

The White Wine Districts.

Leaving Bordeaux and going southward up the river, which here changes its name to the "Gar-

onne" we come to the white wine districts, principal among which are those of "Parsac" and "Prenac," where the most valuable and costly white wines of the world are produced.

The vines are planted at about the same distance, and treated and cultivated in about the same manner as in the "Bourg" and "Blaye" Districts, and trained on poles. It is from these districts that we obtain the celebrated "Chateau Y Quem," "Contel" "Filhot" and Latour Blanche."

The foregoing, as examples, fairly represent the treatment of the vine in all the various districts of Bordeaux. The vineyards are usually small, and are frequently owned by peasants, who work them in person, particularly in the Districts of Bourg and of Blaye.

There are also a class of proprietors called "Bourgeois," who usually own from ten to two hundred hectares—one hectare being equal to about three of our acres. The finest wines are produced in the larger vineyards, where large numbers of families are employed—the women and children performing a large part of the work in the vineyard.

The Vintage.

Every vineyard, small or large, has its own cellar. The fruit of each vineyard is gathered by the owner and made into wine on his own place.

As soon as the grapes are picked they are immediately stripped from the stems and crushed generally under the feet in low tubs, and then turned out into large fermenting tubs or vats, holding from 500 to 3,000 gallons, in which they remain on the husks during fermentation.

The liquor is finally drawn off from these large vats into casks of sixty gallons each by faucets, at the bottom of the vats, and these casks are tiered up in the cellars, and the first step in wine-making is done for the red wine.

The wine press is very rarely used, never for good wine, but sometimes for pressing out the pumice or refuse of the vats, for the second or ordinary wine, which is kept for the use of the workmen.

For the white wine the process is wholly different.

Usually the fruit is most carefully picked by selecting and cutting with scissors the ripest berries from the cluster, and it ordinarily happens that the vineyard is thus gone over many times before the crop is finally gathered. The grapes are put in a low tub after being stripped from the stems. The first juice that runs off from the tub is the first quality of white wine, and has no pressure aside from the weight of the grapes themselves, all being broken by the separation from the stems. Then, after the first or best wine has run off the pressure of the feet is used and gives a wine called the second wine of a quality inferior to the first. Then the wine press is used with the residue, which is called the third wine, and is, of course, poorer than all.

Great care is taken not to leave the grapes in the vats on the husks, as that would color the wine, and these different varieties or qualities of wine are kept separate and distinct from each other in casks of from sixty to five hundred gallons for fermentation.

The Vaudermide District.

On that beautiful slope of Southern France which lies adjoining the Gulf of Lyons, on the Mediterranean Sea, with a climate as mild almost as Italy in the Department of "Aude" and "Herault," are

situated the wine districts known as the "Vaudermide," the wine from which is known throughout France as "the wine of the South."

The vines are planted about four feet apart each way, and often closer, regularly in rows, but without stakes, poles, wires, trellises, or supports of any kind. They are pruned short and are trained like small trees or shrubs, and resemble most an orchard of little dwarf trees.

Each year the vine is pruned to a single stalk, and the fruit grows close to this main stem in rich clusters, falling nearly and often quite to the ground.

The cultivation of the plant is here done mainly with the small plough drawn by oxen and occasionally by horses. The winter pruning is done, as indeed it is throughout France, soon after the vintage, usually waiting for a frost, and usually before February.

In these districts the vineyards are very large indeed, and an enormous quantity of common wine, or "vin ordinaire" is made. It is also quite common here to construct large cisterns of stone under ground in which the wines are stored and kept, many of them of very great capacity.

The vintage and manufacture of wines are quite the same as in the districts of Bordeaux.

Southern France.

Throughout the whole of Southern France upon the Mediterranean slopes, from the Alps on the west to the Pyrenees on the east, at least one quarter of the whole country is composed of vineyards. As a rule, throughout it all the vines are grown without stakes, poles, trellises, or supports of any kind, as described in the Vaudermide districts, and as it is then called, "en souche basse," (on low stocks.)

With every variety of soils, the finer wines are grown on the poorest, at the base of the mountains, or on pebbly deposits in the valleys.

As in Germany, the richer soils, while producing the larger quantities, make an inferior wine.

The increasing demand for these wines has, singularly enough, depreciated their real worth. They are not to-day equal to their value of ten years ago. Proprietors have been tempted by high prices and larger orders to greatly increase the amount produced in the vineyards by strong manures, after the German fashion, and vineyards have been enlarged and the quantity produced increased enormously, but not of old qualities.

The vineyards are worked over three and four times in the season, and some of them yield enormously, in quantity over one thousand gallons to the acre. We have no culture here (except in California) at all resembling this, but I think we are destined to have it hereafter, and I think that few Americans who see these vineyards of Southern France will not resolve to try it at home with our standard varieties as the Spaniards tried it in California and with wonderful success.

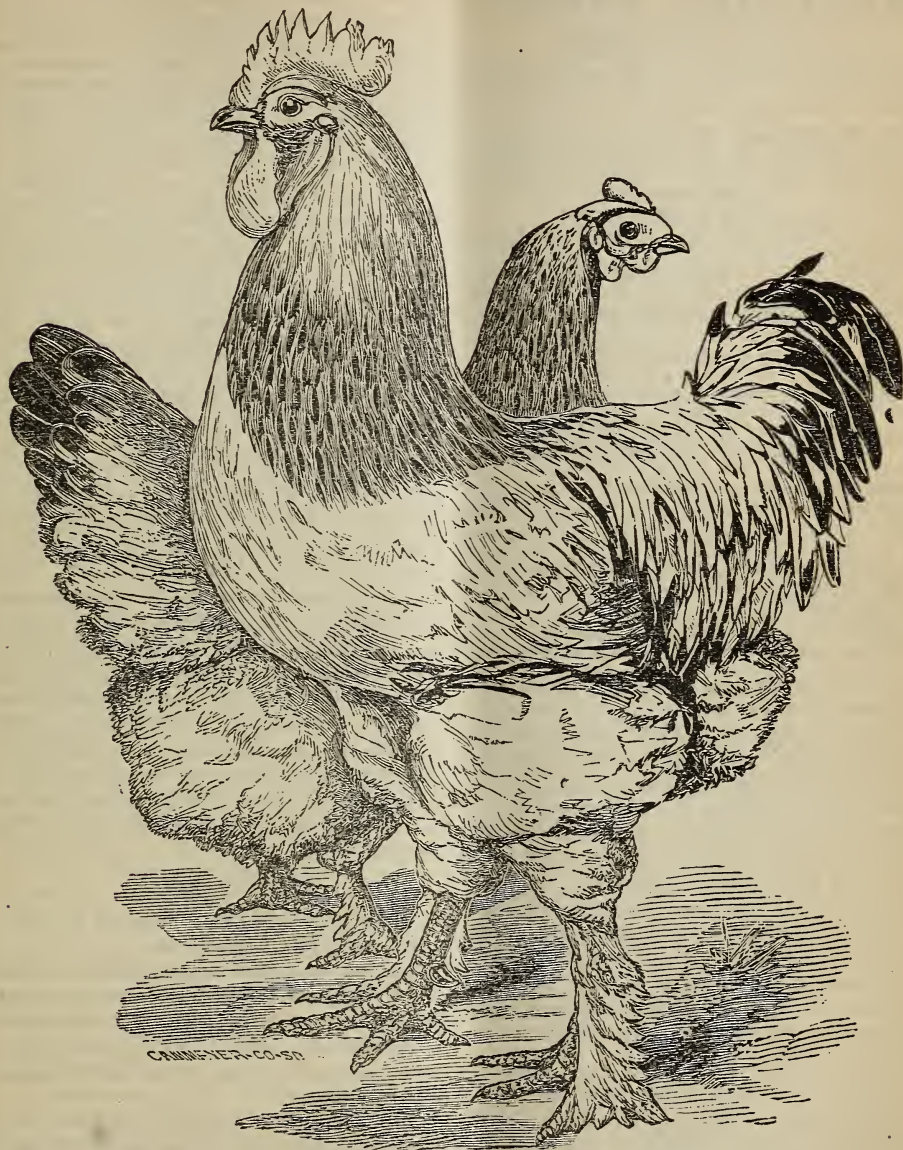
(TO BE CONTINUED IN OUR NEXT)

RABBITS AND MICE.—A western farmer states that he has secured his young apple trees from the depredations of rabbits and mice during the past four years by leaving shocks of corn in the orchard through the winter. He finds these mischievous creatures will not gnaw the trees when such shelter and feed are at hand.

It is estimated that an equivalent of 12 tons of hay can be produced on one acre in roots.

LIGHT BRAHMA POOTRAS.

Imported by Thomas B. Smith & Co., Plantsville, Conn., and now offered for sale by him.



BRAHMAS.

This breed is generally admitted to be the very best for general purposes. They possess both size and beauty, and are sufficiently hardy for any climate; are very prolific and the best winter layers known. They are good setters and mothers and very domestic, rambling less than other fowls.— Their eggs are large and surpass most others in qual-

ity. They mature very early, and their flesh is of superior quality, being tender and juicy.

PROFIT OF HENS.—At a recent meeting of the American Inst. Farmers' Club, several interesting letters were read from poultry fanciers who submitted the results of their efforts in rearing poultry and eggs during the past year. In one instance each hen was reported to yield \$4.20 per annum. In some other instances the average yield was \$3.69 to \$3.79 each.

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The report of Col. Horace Capron, Commissioner of Agriculture, for the year 1868, has been received, and contains a beautiful illustration of the grounds and conservatory at Washington, D. C., together with statistics showing the increase and mode of production in all the States; Reports of the Chemist; Food and Habits of Beetles; Agricultural Education in Europe; Farm Experiments, and much that can only be mentioned in an extended review. This yearly compilation is of great value to our farmers, and is collected by the government to assist in developing knowledge of all kinds relating to agriculture. Every intelligent husbandman should have a copy. We shall make extracts from this report at some future time.

REPORT OF THE SUPERINTENDENT OF THE DEPARTMENT OF LABOR AND AGRICULTURE.—We have received from Dr. Wm. S. McPherson, head of the Department of Labor and Agriculture, his annual report to the General Assembly of Maryland for the years 1868 and 1869. It is a highly interesting and elaborate report, and will be read by every citizen of the State who appreciates the labors of this important department of the public service. A copy can be secured by addressing either your State Senator or Delegate, or the head of the Bureau at Baltimore.

Tobacco vs. Lima Beans.

HUNTINGTOWN, January 13th, 1870.

To the Editors of the *Maryland Farmer*:

Please inform us in the February Number of the *Maryland Farmer* whether Tobacco is a profitable crop to make after corn? or, if Lima Beans would not pay better than tobacco, after either of which wheat would follow. Hoping to see your opinion in the next Number, I remain a constant

SUBSCRIBER.

If the land is naturally good Tobacco land, and our correspondent understands the growing and curing of tobacco, this would certainly be the most profitable crop. But to follow corn with tobacco will be found very exhausting to the soil, as both corn and tobacco draw largely on the potash and the phosphates which such land ought to contain in abundance to produce a large yield of tobacco.

If, however, our correspondent is prepared to use fertilizers adapted to the growth of tobacco, and to use them liberally, the case is altered.

We are not prepared to say what would be the profit of a Lima Bean crop, as it is rarely that the lima bean is extensively cultivated expressly for winter use, as we presume our correspondent intends.

There is however a good demand for Lima beans, both green and dried in the market, but as a general rule the middle men—that is to say the hucksters—take the largest portion of the profit of this crop.—We should say then, that under the conditions we have laid down—First, that our correspondent knows how to grow and cure tobacco, and second; that his land is sufficiently fertile, or is made so, to produce a good crop of tobacco after corn, that tobacco will be found the most profitable.—[Eds. *Maryland Farmer*.

European Chestnuts.

MARKESVILLE, PAGE CO., VA., Jan. 17, 1870.

To the Editors of the *Maryland Farmer*:

Will your correspondent D. A. inform the readers of the "*Maryland Farmer*" why he would cut down the original growth of chestnut, if he wanted to start a chestnut orchard? Why not leave it, as it would have several years the start of one that you might plant out?

Most of the Native Chestnut trees in this part of the country bear very well when they are a good distance apart.

Are the European Chestnuts better flavoured and larger than our native chestnuts? Do they command a higher price in market? Could a person procure grafts in this country? If so, where?

Respectfully, yours, &c.

D. K.

ERRATA.—In the article on "Sheep and Dogs," page 278, September number, line 42, read \$75,000,000 instead of \$45,000,000.

LETTER FROM TENNESSEE.

SUMNER Co., TENN., January 20, 1870.

To the Editors of the Maryland Farmer:

Having just commenced a farming career, will a "few lines" to you occasionally be any disadvantage? I think not; for in the present condition of affairs agriculture has been reduced to a science.—In days of yore our forefathers worked the virgin soil and reaped therefrom bountiful harvests without much thought of the wear and tear of the soil. Lands, like them, grew old and weak; washes came therein like furrows on their brows. The generation following could not make the same land produce as in "days gone by." Science is called in, deep indeed, but dive into it by *studying* such magazines as the *Mirylind Farmer*, and trying to contribute to it, which causes reflection upon and study of that science. As a profession, agriculture has deservedly taken the front rank. Many of our best and most intelligent men have honored it and themselves by taking hold of its humblest labors and details, as well as exploring science for the benefit of others not so gifted. God bless them. They combine the true traits of character, integrity, usefulness, energy and intelligence, ornaments to any station in life—particularly to the calm, independent and happy pursuits which give them such happy reflections, as being instrumental in extending public good without the noise and brilliancy of public life, from which there are many deserters to our ranks—making themselves as useful as in their former labors. But, excuse me for going so far, I wanted to ask some advice, at the same time give my "views." I want to carry out the adage, "*Any man who makes two blades of grass grow where one grew before is a benefactor to mankind.*" Some of my land is poor, badly washed. What must I do with it? It has a pretty good clay basis, but vegetation is nearly gone. I am in hopes I got it in time to save it. I cannot afford to pay for high-priced manures—if I can make some that will answer, and I *will* take the trouble. I can compost heaps by your instructions as given. I want to so cultivate as to make it pay, or give more good lands to the paying crops. My idea, check the washes, by changing direction of water, filling up, &c., plant in stock peas, manured well with ashes. (Is it not the best manure for worn lands), when about ripe turn my hogs upon it—which will be giving every thing and more back to the soil, and will be that much saved in corn, as I think (though young at the business) it will fatten them—then in the fall sow in small grain followed by clover—but I will be governed by experience—I am not one of those young farmers that "know all."

In many parts of the South there is a great deal of trouble about labor, which undoubtedly has to

be systematized. Farmers want something to supersede Negro labor, which they have worked for years. The trouble, owing altogether to treatment of laborer's, treat him kindly he will love you—manage him with firmness he will respect you—gratify occasionally a childish whim, (they are so to speak mere children) he will be happy—you will neither lose any self-respect nor will it cripple your finances; he will love to work for you and will always be in a good humor—will have confidence in you and you in him. After all it is a want of confidence on the part of each for the other, originally brought about by evil minds now kept up by mismanagement and bad treatment on part of employers.

We have had a most miserable spell of weather, and one of the most destructive storms I ever witnessed, fencing blown down everywhere, houses and barns unroofed, and thousands of dollars of damage to city as well as country property. The oldest citizens have "never known such." With the compliments of the New Year and many good wishes for the success of *The Farmer*, and thanks for useful information monthly received from it,

I am, yours,

SMADA.

Maryland Grape Growers Association.

Messrs. Editors: An informal meeting of a number of Grape Growers in this State was held, the early part of January, at the residence of G. H. Mittnacht, Esq., Pikesville, Md. A number of wines furnished through the kindness of Mr. Mittnacht, were submitted to the taste of those present. They consisted of Delaware, Herbemont, Catawba, Rogers No. 1 and 9, Norton's Virginia, Clinton, North Carolina and Concord, and were grown by the Bluffton Wine Company, of Missouri. Samples of young wines of Norton's Virginia, Ives and Concord were exhibited by Mr. Charles T. Schmidt, and of the Concord by Mr. E. P. Hipple. The vineyards of Mr. Schmidt, which were visited by several of those present, were considered as extremely promising. They are elegantly located on the Patuxent River about six miles from Baltimore, and consist at present of about twenty-five acres, planted principally in Norton's Virginia, Ives and Concord vines. The condition of the vineyard reflects much credit upon the industry and perseverance of the proprietor. A temporary organization of a Grape Growers Association was effected by the appointment of G. H. Mittnacht, of the Loyal Park Vineyards as President, pro tem, and Edward P. Hipple, of the Bohemia Vineyards, as Secretary, pro tem. A number of communications had been received from Grape Growers in the State and an early call will be made upon them for a meeting to effect a permanent organization.

Respectfully yours,

EDWARD P. HIPPLE.

Bohemia Vineyards, Town Point, Cecil Co., Md.

Potato Digger and Basketing Machine.

The following is a description of the Potato Digger and Basket machine, alluded to by "Plowman" in the last July number of the *Maryland Farmer*.—The inventor, Robert Sinclair, of this city, promises to have a working model constructed without delay. The mould board or casting is about 2 feet long, cutting a width of about 10 inches from heel to point, forming an incline plain, landsides and a barring arrangement on either side. The shear has a right and left edge, with cutters or coulters attached. The elevator is about 5 feet long, and constructed similar to a straw carrier as attached to threshing machines, with the exception that it has more strength, and instead of the cross sheet iron slats or buckets traversing on a board, they pass over a cast iron grating, allowing the escape of loose earth. At the upper end of the same are two or more oblong holes, placed crosswise or athwart, for the escape of the potatoes which fall into a basket hung under the same. The slats are attached to rubber belting two inches wide, which bear on small iron rollers for the purpose of overcoming the pressure of earth. Between the casting and the carrier is a pair of traveling wheels running on a stationary axle upon which the machine swings, and acts as a fulcrum for the purpose of throwing the plow out at the head lands, which is done by pressure on a pair of handles in the rear of the carrier. The machine is drawn by a pair of horses attached to an (iron rod) irregular triangle, and so arranged as to give the plow more or less depth at pleasure.

By substituting revolving steel cutters instead of stationary, Mr. Sinclair informs us that sweet potatoes can be dug with the same facility.

The carrier is driven by a cross belt or spur gearing. Some lumps of earth may unavoidably fall with the potatoes, which can be no objection, except increased bulk. At the apex of the grating is a cross line of iron pins for the purpose of arresting potatoes hanging to the vines. Mr. Sinclair estimates that with two carts and three men, three acres of potatoes can be gathered and housed per day by this machine.

CLOVER AS A FERTILIZER.—When red clover is ploughed under to renovate the soil, and when the crop is good, the clover roots and stubble, with barnyard manure, will furnish all the vegetable matter, nitrogen and ammonia is passed, and may be saved in the manure; so that on good land, where all is well managed, and the clover sod ploughed up while yet in full vigor, so as to secure the large mass roots, of nearly the full benefit of the clover crop may be had, both for feeding and for making manure.

The Poultry House.

HABITS OF FOWLS.

It is remarkable that so many of us will live so long amount domestic animals, noting as we think their every habit, and yet know so little of them; Only a few weeks ago we noted a hen, just hatching out a brood of chickens, in the act of eating one of them. For a special purpose, we had an egg of a bantam with the others under a hen of the common barn-yard fowl. Probably she thought the chicken too small to be good for anything but to eat. When we caught her she had it nearly swallowed. All but the little legs had disappeared. We never heard of such a case before.

In connection with this subject of the habits of fowls, we give the following from the *English Agricultural Gazette*, which we imagine will be novel to nearly all our readers:

People have an idea that the hen sits on the egg for a certain time, and that when the time comes for hatching the chick bursts the egg and comes forth. There never was a great mistake. The chick, until liberated from the shell "by outside aid," is as incapable of motion as if it formed a solid with the egg, which it nearly. You might as well enclose a man in an iron boiler, and tell him to get out without tools, as expect a chick to get out of the shell without help. The chick grows and swells in the inside of the shell, until at last the excrescence on the point of the beak of the bird presses against the inside of the shell, and bursts up a small scale; of course when it does this, it at the same time breaks "in that spot" the inside skin of the egg. This admits the air; in a short time it breathes and gets strength to cry loudly. The hen then sets to work to liberate it; she brings it forward under the feathers of the crop, and supporting it between the breast-bone and the nest, begins the work of setting her progeny free. She hitches the point of her back into the hole formed by the raising of the scale by the chick beak, and breaks away the egg skin or shell all around the greatest diameter of the egg. The joint efforts of the hen without and the chick within then liberates the prisoner, and he struggles into existence, and gets dry under the feathers, and with the natural heat of, the hen.

All female birds who set on their eggs hatch them have the hook in the beak strongly developed. Even the broad-billed duck and the goose have these hooks specially developed, and with them they liberate their young. In Australia, where everything seems to be by contraries, it is the cock of the brush turkey that hatches the eggs and not the hen. It would be interesting to know whether the hook of the beak is better adapted for this service in the male of that bird than in the female; the hook on the beak of the ordinary cock of the common fowl is quite different from that of the hen—it is adapted for wounding in fight, but not for the hatching of eggs.

THE BARLEY CROP.

This cereal is yearly growing in importance in this country. Its consumption for making beer is constantly increasing, which results in a larger area being sown with the grain, and in firmer and more uniform prices. With proper cultivation, on soils specially prepared for and adapted to it, greater profit may be expected than from any other ordinary spring grain.

Barley is not a deep feeder. It draws its substance from the top-most strata of the earth—from five or six inches of surface soil. Hence, deep cultivation is not necessary. It is, likewise, specially adapted to precede a wheat crop, inasmuch as the latter sends its roots into the deep subsoil, taking thence the elements necessary to its growth.

There is no one of our common grains which receives greater benefit from manure applied at the period of sowing—especially from green or unfermented manure—than barley. Its mass of fibrous roots, spreading through the surface soil discover and appropriate rapidly any nutritious elements contained therein. In the British Islands, where this crop is of great value, barley is usually sown on land that has been enriched and trodden through the winter by flocks of sheep, folded and fed on the preceding crop of turnips. The plowing for preparing the seed bed is very shallow, so as to keep the manure near the surface, but the soil is thoroughly pulverized to the depth of its cultivation.

In this country barley usually follows a hoed crop, and from the severity of our climate the methods of manuring must differ from the British. As it is of great importance to sow very early in the spring, fall plowing should be practiced.—Another advantage is thereby gained, which is the beneficial action of the frost and snows through the winter, on the upturned, rough clods. Where the land is undrained, and holds water until late in the spring, it would be an excellent preparation to subsoil as deep as possible in the fall. This would break the crust and allow the water to settle away from the surface very early. It would, likewise, be of great benefit to the succeeding wheat crop.

Though the seed should be sown as early as possible in the spring, beware of working the soil when it is too wet. It will, in the majority of cases, be fatal to a large yield. Plow six inches deep, and harrow thoroughly. We prefer drilling to any other method of sowing, but the grain should not be covered to a greater depth than an inch or inch and a half. It is not a bad practice to harrow crosswise of the drill marks, after sowing. Then be sure and not omit rolling. That operation, if the soil be in the proper condition, crushes the lumps, puts the small stone out of the way of the reaper,

and compacts the earth around the seed, helping it to germinate quickly. Rolling may even be performed after the grain has sprouted, without detriment to it. The best way of manuring is to top-dress the ground after fall plowing. Manure may be drawn out in the winter time, and spread early in the spring and harrowed under.

Barley *sometimes* yields well sown on fall plowed sod ground, or even on that spring plowed, but it is not a certain crop with such preparation. In the majority of cases it will fail. If it must be sown on such ground the plowing should be done late in the preceding summer, so that the soil will decay, and then very deep harrowing, or better, gang-plowing resorted to just before sowing. But if the land is not foul, sowing sod ground with barley, and and fallowing with wheat, gives a good chance for the latter crop.

The yield of barley ranges from twenty to forty bushels per acre. Two bushels per acre of seed is about the right average quantity. It is an unfavorable crop for laying land down to grass, for the reason that its roots keep so near the surface, and appropriate so much nutriment in the top soil, that the grass roots are liable to starve.—*Rural New Yorker.*

HOW TO MAKE A BRICK OVEN.

Many a housekeeper longs for a good old-fashioned brick oven, especially when there are several loaves of bread and a dozen pumpkin-pies to be baked at once.

A brick oven built in the old style, out of doors, entirely separated from the dwelling-house, is more desirable and more safe, so far as danger from fire was concerned, than if built by the side of the fireplace, in the house. A good brick oven for baking bread, pies, and cakes is worth all the ranges and cook-stoves that one could store in his kitchen.—In such an oven every thing will be baked just right, above and below, through and through. After a foundation has been prepared, let two courses of hard bricks be laid for the bottom of the oven.—Then build the mouth and part of the sides, until it is desirable to begin to draw the sides inward, when sand or mellow earth may be placed on the foundation, and the surface smoothed off and pressed down to the desired form of the oven. Now let the brick-work be built over this form of sand. Let two courses of hard bricks be laid over the form with the best of mortar. After the last bricks have been laid, the sand may be removed. The bricks should be soaked for several hours previous to being laid, so that they will not absorb the moisture of the mortar until it has set. Such an oven will cost but a few dollars. Many people can collect a sufficient number of loose bricks and pieces around their dwellings to build a brick oven. Besides this, any intelligent man, though only half a mechanic, can build such an oven about as well as a mason.—*Manufacturer and Builder.*

Inspection of Fertilizers.

The following bill is now before the Legislature of Maryland with a strong probability of its adoption :

"A BILL entitled an act to repeal chapter 295, Acts of Assembly, 1868, entitled an act to amend article 4 of the Code of Public Local Laws, relating to the city of Baltimore, title "Gnano," by adding thereto the following sections, relating to the inspection of all fertilizers, other than guanos, and to substitute the following in lieu thereof :

Section 410. That all commercial manures sold, or kept for sale, in this State, shall have permanently affixed to every barrel, bag or parcel thereof, which may contain fifty pounds or upwards, a printed label, which shall specify the name of the manufacturer or seller, his place of business and the percentage which it contains of the following constituents, to wit : Of soluble phosphoric acid, of insoluble phosphoric acid, of ammonia, of potash, and of soda.

Section 411. That whoever sells or keeps for sale commercial manures, not labeled in accordance with the provisions of section 410 of this act, or who shall affix thereto labels specifying a larger percentage of the constituents mentioned in section 410, or either of them than is contained therein, shall be punished by a fine of twenty-five dollars for the first offence, and fifty dollars for the second and each subsequent act, to be recovered on complaint before any tribunal of competent jurisdiction, one-half to go to the informer and the remainder to the State.

Section 412. That any purchaser of commercial manures bearing label as provided for in section 410 of this act, and which contains less than the percentage stated in said label, may recover from the seller in an action for debt an amount equal to the purchase money of said manures.

Section 413. That by the term soluble phosphoric acid wherever used in this act is meant phosphoric acid in any form or combination, readily soluble in pure water, and by the term insoluble phosphoric acid is meant phosphoric acid in any form or combination which requires the action of acid upon it to cause it to become readily soluble in pure water.

Section 414. That the provisions of this act shall not apply to any such commercial manure which is sold at a price not exceeding one-half of one cent per pound."

The following is an extract from the Annual Report of Dr. McPherson, presented to the present Session of the Maryland Legislature, where he recommends enactments looking to the inspection of all kinds of fertilizers :

"There are doubtless many valuable fertilizers manufactured in our State, and perhaps some of

them are sold at a moderate advance upon their cost ; but when it is shown, as by the analysis of Prof. Johnson, that an article which is sold at \$28 per ton, is really worth not more than \$3 per ton—not one-ninth of its price—the necessity of some legislation for the protection of farmers is obvious.

In view of the deceptions practised by the Northern mixers of fertilizers, so-called—some of which are exposed in the report before mentioned—our law should require the inspection of all brought into the State for sale, as well as those made here. The law of the last Legislature was defective in that particular. It has seemed to me that the inspection of pure guanos and of these commercial fertilizers could be advantageously intrusted to one officer, who, with the concurrence of the Superintendent of this Department, might be authorized to employ, from time to time, such assistants as the business required. His office should be in close connection with this department, but I respectfully submit whether much of the work might not be conveniently and profitably committed to the chemical laboratory of any of the institutions of science and learning fostered by the State, in which the necessary facilities and competent professors of chemistry might be found."

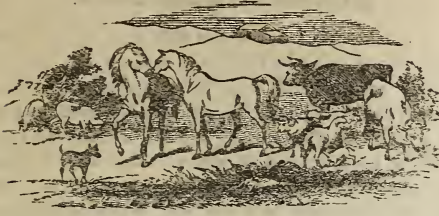
MONTH OF FEBRUARY.—This is the month to provide the seed and implements required for early Spring use.

The selection of pure and fresh seeds is of the first importance, and the cost is as nothing compared with the results.

It is presumed the reader fully appreciates the importance of obtaining the seeds which he designs to sow from reliable sources, else all his labor may be cast away, and instead of reaping the reward which attends well-directed efforts, a barren harvest will prove his only recompense. We reiterate our caution on this subject, in view of the worthless seeds which are palmed upon the unsuspecting. In the matter of garden seeds it is, except in locations remote from sources of supply, better to buy than save : a few dimes meet the total expenditure, and if procured from head quarters are likely to be better than one's own chance savings.

The Lucerne, although little known in this country, has been known and cultivated from the earliest times. It, at present, grows wild in the pampas of Buenos Ayres. If sown on suitable ground it will produce good crops from ten to twenty years, in succession. Like clover, it improves the soil instead of exhausting it. It should be cut as early as it begins to flower. The seeds, when fresh and ripe, are yellow, glossy and heavy. It should be sown in the spring along with grain crops.

Live Stock Register.



EXERCISE FOR BREEDING EWES.

There is no part of the management of a flock of sheep so much neglected by the shepherd as that of giving the breeding ewes a proper amount of exercise.

Many are the flocks that are put into a small yard or shed, and there confined during the whole period of gestation, without even going out of the yard.

Good feed alone does not give strength to the body; but good keeping and proper exercise makes an animal strong.

Animals will even *fatten* better without much exercise, and to fit them for the shambles, it is well to keep them close; but where strength is required, exercise is necessary. If you expect strong, healthy lambs, give the ewes good feed and moderate exercise in the open air; for rest assured if they are closely confined and highly fed, you will have weak lambs, and those very difficult to raise.

While it is necessary to have shelter and good conveniences to feed under cover, it is not always best to feed there. In the Northern States, while the ground is covered with snow, and when the weather is suitable—moderately cold—sheep can be fed to good advantage on the snow. By feeding in this way they get the right kind of exercise, and will eat their feed as clean as in the best of racks.

Each flockmaster must consult his own convenience in regard to the best way to give his flock exercise during the winter months; for it is fresh air and exercise that makes a flock strong and healthy. —*American Stock Journal*.

COOKING FOOD FOR STOCK.—The *American Stock Journal* says:—It has been settled by numberless experiments that cooking food for cattle or hogs add about fifty per cent. to its value. If a man has but a few animals to feed it will cost him but little to get his corn ground, and then thoroughly cook or steam, before feeding. If he is a large stock feeder then he should have his own machinery for grinding corn and cooking it on a scale commensurate with his wants. No outlay on a stock farm will pay better than a grinding and cooking apparatus. Try it on a small scale and be convinced. —*American Stock Journal*.

Browsing Sheep.

Nelson Young, South Addison, Steuben county, N. Y., writes that several years ago he experimented in browsing sheep in winter, and that "he found if they could have plenty of hemlock they would eat no other that he could give them." Since then, "whenever his sheep are kept from the ground a week at a time by snow, he has attempted to provide them with hemlock." He says:—"It would have done you good to see my sheep meet me last winter when I drew the first hemlock top into the yard. Though they had plenty of first-rate hay and poorly thrashed straw, they devoured the hemlock with avidity." Mr. Young thinks it keeps his sheep healthy, and that if they have plenty of "fresh cut and thrifty hemlock" they will not eat more than two-thirds as much hay. He says his lambs come late, and that "he does not know how it will do for ewes that suckle lambs."

Sheep confined to dry feed soon learn to eat hemlock as above described, and they undoubtedly obtain a degree of sustenance from it—but whether as much as a third, as our correspondent supposes, we are hardly prepared to say. We have known sheep killed by eating hemlock when it was given them in large quantities after a long confinement to dry feed—but this never need happen, because it can be given more frequently, or more sparingly at first.

We should be glad to hear immediately from farmers who have used other kinds of browse for sheep, giving the results of their experience. If the present winter proves a severe one, there will be great need of eking out the feed of our domestic animals in every possible way. —*Randall*.

DRIVING A YOUNG HORSE.—The *American Stock Journal* says:—In teaching a young horse to drive well, do not hurry to see how fast he can trot. Keep each pace clear and distinct from the other, that is in walking make him walk and do not allow him to trot. While trotting, be equally careful that he keeps steady at his pace, and do not allow him to slack into a walk. The reins while driving should be kept snug and when pushed to the top of his speed keep him well in hand that he may learn to bear well upon the bit, so that when going at a high rate of speed he can be held at his pace, but do not allow him to pull too hard, for it is not only unpleasant, but makes it often difficult to manage him.

A Massachusetts farmer says he can fatten his sheep on steamed feed for one-third less expense than on dry feed, and get one-fourth more weight. This is the result of five years experience.

If we took the trouble to hate all our enemies, we should have no time left to love anybody.

USEFUL RECIPES.

HORSES OVERREACHING.—Pare the heel of the forward foot low, and the toe of the hind foot low. This causes the horse as he moves forward to raise the forward foot quicker, and allows the hind foot to remain longer, so that before the hind foot comes forward the fore foot is out of the way. Also, make the forward shoe long. If my reasoning is not plain let any one try the experiment, and they will be satisfied.

SWELLED LIMBS.—When a horse stands long in the stable his legs are apt to swell. No horse which is not disabled by sickness or lameness should be allowed to stand long in the stable. Inaction produces a dropsical condition of the dependent parts of the body, and the obvious remedy is to exercise the horse every day.

FOOT ROT OINTMENT.—Take Lard and Venice turpentine, four ounces each; melt and add one ounce of blue vitriol. This makes a good ointment.

FISTULA IN HORSES.—The opening should be made large and deep enough, so that the matter can be swabbed out by a piece of sponge tied to a small stick. A portion of the following mixture should be introduced daily: one ounce of creosote, one ounce of turpentine, and two ounces of olive oil. Before applying the medicine, the cavity and surroundings should be cleaned with soap and water, with as little friction to the parts as possible. In more severe cases of poll evil, where deep fistulas, or caries of the bones exists, it is proper to call the aid of a skillful veterinarian as soon as possible. Poll evil can generally be cured without leaving a stiff neck.

HOOKS IN HORSES.—Hooks are an imaginary affection. The *membrana nictitans*, or haw, an appendage of the eye that has the power to a great extent of protecting the eyeball from injury, and also tends to remove any foreign substance that may become lodged in the eye, is often mistaken for an abnormal growth, and is in consequence sometimes rudely removed. In some instances the haw becomes enlarged, when, if it causes irritation, the eye should be fomented with tepid water daily, and a mild astringent afterwards applied, as five grains of sulphate of zinc dissolved in one ounce of water.

HOG CHOLERA.—Take the *Polygonum Punctatum*, or common smartweed—of which there are two varieties, the large and small—use both combined, or the small variety alone; make a strong decoction by boiling; add to this slop, and get the hogs to drink all you can; the effect is almost magical; your hog improves, sheds off and fattens beyond expectation.

It is a fine thing to give hogs that have no cholera to make them improve faster.

SORE EYES IN COWS.—Wash the eye with warm water and milk every morning. And if she does not get better apply flaxseed poultice, and then wash as before.

COLT'S MANE.—The only thing to increase the length of a colt's mane is to keep the roots perfectly clean, and frequently comb and plait it.

SPRAIN IN THE STIFLE.—A part so deeply situated is treated with difficulty. Fomentations should at first be used to abate the inflammation, and a ter that, an active blister should be applied. Strains of this joint are not always immediately relieved, and the muscles of the limb in some cases waste considerably: it therefore may be necessary to repeat the blister, while absolute rest should accompany every stage of the treatment. It may even be requisite to fire the part,—or, as a last resort, a charge may be placed over the joint, and the horse turned out for two or three months.—*Above from American Sotck Journal.*

The Dairy.

MILKING WITH DRY HANDS.

I believe that much of the milk gets tainted with noxious or bad odors before it reaches the pail.—Some persons, and hired help especially, have a habit of wetting their fingers with the milk once in a while, and then wetting the cow's teats, as they say, to make them milk easier. Now this wetting process causes much foul stuff to drop from their hands or the teats into the pail while milking.—This is all wrong—cows can be milked as easy with dry hands as wet ones. I have been in the habit of milking cows; and although I have met with some hard milkers that require their teats to be softened in order to draw the milk, I have generally found it both easier and pleasanter to milk with dry hands. If the teats are dirty, the udder should be washed with tepid water and allowed to dry before milking; and if the teats are very hard and tough to draw, the cow had better be turned into beef, or kept to raise calves from.

It is just as easy to make good, sweet, clean butter, as to make poor butter. The best of butter is made from sweet cream gathered as free from milk as possible. To make good butter requires more than ordinary care and attention. Everything should move on with the regularity of the sun. To make butter profitable, great care must be exercised in milking the cows. To milk clean is important. It not only adds to the quantity of butter, but saves the cow from positive injury. Let a farmer or his dairy get the name of keeping a good article of butter in every respect, and he will find it not only to pay, but pay well, too.—*Cor. Practical Farmer.*

About Milking and Talking.

A correspondent of the *Rural New Yorker* asks: "Does it effect the quantity of milk a cow will give if conversation is carried on between milkers when milking?" We do not think there is any doubt about it—especially when the dairy is made up of young cows. We would not have a loud-talking milker in the stable. And it would be better, without doubt, if conversation was entirely tabooed when milking. We remember some years ago, a dairyman assert at a meeting of a farmers' club, that he had discharged a man because he would talk and interrupt the milking in his dairy, and that in three days the increase in milk was equal to the man's wages. Such are important facts, if established.

Two quarts of hot water, one pound of Indian meal and a quarter of a pound of unbolted wheat flour, will make more eggs when fed warm to hens than twice the amount of whole grain.

Horticultural.

RULES FOR SELECTING TREES FROM THE NURSERY.

In visiting nurseries, we often notice persons who are purchasing fruit trees, making their selection of such, as *they think*, are the best specimens of the kinds sought, and in general the rules by which both fruit and ornamental trees should be selected from the nursery rows; but the error most generally committed, is in choosing *large* specimens, which cost much more than they are worth. Were we about to plant an orchard of choice fruit, the ages of the trees purchased by us would be: Apples two years, pears two years, peaches one year, cherries one or two years, plums two years—all from the graft or bud. Rather than have trees older than two years, we would prefer them one year, and for the following reasons:

1. Such small plants are easily taken up with nearly all their small fibrous roots. They have no large woody roots that are sure to be cut through in the act of digging, and from the ends of which no small rootlets will generally spring, unavoidably leaving a large amount of dead rootwood, which is a positive injury.

2. Small trees receive less check in being transplanted, and in three or four years equal, if not exceed in size, older ones. They also bear in about the same period, while they are almost always far more thrifty.

3. Trees that have been transplanted when small, are not liable to disease. When a large tree is transplanted, the growth for that season is always very small, and the bark presents a dry, unhealthy appearance. The tree is liable to become bark-bound, especially with cherries, and the hard pruning necessary leaves a great amount of dead matter in the tree, that may be concealed by new layers of wood, but still remains dead matter.

If we could plant seeds of the trees we desired, in the places where we wanted them to form an orchard, such trees would be more healthy, and much longer-lived, than transplanted trees can be; but this is a condition of things not easily attained.—We should, therefore, adopt the nearest approach to it, and set out young, thrifty plants, with all their fibrous roots untrimmed, that will adapt themselves to the conditions in which they are placed, and that will, in course of time, form a valuable orchard. Could we take up large trees with all their roots, and a ball of earth with each tree, then such trees would not meet with a check, and a gain of time would be the result; but this is seldom the

case, and the better course is to plant out small specimens.

These rules apply also to ornamental trees and shrubs. We have a good example of this before us. About twelve years ago, a large evergreen was transplanted by a friend of ours into his garden. It was about twelve feet high, and great care was taken of it. At the same time we set out a small one, about eighteen inches in height. Now, what do you think is the difference between the two trees at the present time? The large tree has grown about four feet.—The small one is twenty feet high. The large one has become the small, and the small the large. But this is an extreme case, and the like does not always occur. Still it is good illustration of the imprudence of selecting large trees.—*Gazette.*

PLANTING OUT STRAWBERRIES.

We have no time to answer individual inquiries in relation to garden crops. We try to inform all, so far as we are able to do so, how we manage things successfully, and they can follow us if they see proper.

As to planting out strawberries, about which we have many inquirers, there are several ways. Of course the ground must be dug a good depth, and pulverized carefully, having applied a liberal quantity of barnyard manure. The beds can be marked out three feet wide and made as long as may be desired. Let the foot-paths between the beds be eighteen inches apart and remove from them all the runners as fast as they encroach. Set the plants firmly in the ground, one foot apart each way. Get the *Triomphe de Gand*, which is of mixed sexes, and Hovey's Seedling, which is a pistillate, and plant them in alternate beds, but do not let them mix, which they will do if the vines are allowed to cross the paths. Some persons may prefer Russell's Prolific, which is an excellent variety, or Jucunda, which cannot well be beaten. Either of these can be substituted for *Triomphe*, if Hovey is retained, which we would advise, as there is no berry more certain to give a crop, or which is handsomer in appearance, which will bear as many years without renewing the bed, or which is much superior.

Many persons prefer the *hill* system of planting out strawberries, and with some very strong-growing varieties it may possibly be the best. But from our own experience we prefer the broadcast planting. It has several advantages. The plants keep the ground moister, it requires less labor, and the beds last twice as long by producing new bearing plants every year. In the hills the old plants are fruited year after year, and as a consequence the berries yearly get smaller.

One thing must be particularly born in mind :— the beds must be kept clear of weeds, for if they are allowed to get headway they will seriously damage the crop. Late in autumn the beds should be covered with light manure, and in the spring the very coarsest portion should either be removed or carefully placed about the plants.

There is no more trouble to cultivate a bed of strawberries than there is a bed of onions or cabbage, and this we wish all those who do not raise the delicious fruit to remember.— *Germantown Telegraph.*

Best Method of Tobacco Culture.

From the best information we can get, the acreable yield of tobacco in the chief tobacco-growing countries, does not, at the most, exceed 800 lbs., and this is, we think, a high average. We doubt very much whether 700 lbs. would not be nearer the truth. In the Valley of the Connecticut the acreable product is spoken of as being from 1500 to 2200 lbs., and sometimes reaching 2800 lbs. Were crops so extraordinary, as compared with our own, not well attested, we should doubt the occasional statements of the papers, for the reason that it is difficult to account for a difference so remarkable.— We have no recollection of even a maximum crop having reached the minimum there of 1500 lbs. If it be, difference in the variety grown, that may be easily remedied. We can supply ourselves with the Connecticut seed-leaf, and need not fear deterioration in quality, for in that point we should be equal-gainers, the price of the Connecticut tobacco, per pound, exceeding ours as much as the weight per acre.

It is not to be doubted, that the difference in weight per acre is owing chiefly to the difference of the method of manuring, and to this point we think it well to draw the attention of our tobacco growers. When it is demonstrated that the same amount of labor will make from one plant quite double the amount of product of our best lands, the only difference being in the quantity of manure used, it becomes a considerate manager to estimate the value of that manure, and to look about to ascertain where it may be had. We can not, as in past times, bestow our labor on two acres when one will produce the same crop. We must give up our old notions of cultivation and manuring.

Let the planter, therefore, that means to plant or manure 10 acres, put all the manure on 5. Let him manure these well with yard manure, and give them, besides, a heavy dressing of the best commercial fertilizers he can get. What if it costs \$20 or \$25 to manure an acre that will yield him probably \$100? It is in such crops as this, that yield largely per acre that he must be bold and liberal. Besides the fertilizing material is by no means all spent on the

crop. A heavy manuring will insure, besides, the following wheat crop, and the clover, to be sown, with it, and so the ground will be permanently enriched.

Tobacco has been always charged with being an exhaustor of the soil, but the charge can not be maintained under any system of good management. No crop grown makes so beautiful a preparation for grass seeds, which should be the chief reliance for permanent fertility. If the ground be well manured for tobacco, nothing is more sure under ordinary circumstances, than a good stand of grass seed of any description that may be sown. To make a heavy crop of tobacco, it is important to give a deep working also, not less than 10 inches in depth.— *The Tobacco Leaf.*

CULTIVATE FLOWERS.

I would cultivate in children a love for flowers, and give them one to tend and care for, as soon as they are capable of doing it. It is a work that tends to beget kindness and tenderness of feeling, and will lead them to seek to be good and lovely, tender and gentle in word and deed. Who would indulge in anger among flowers?

Every Farmer's wife should have a few plants, one at least, to cherish and love. It would lighten her harder labor, and relieve her greater care, and often sooth her perturbed feelings, to give it merely a look, a thought, a draught of water in its need—to watch its growth and catch the fragrance of its opening petals. Perchance I hear one say, "I have no time to spend in that way; I have to work, work, from morning till night, and go to bed with much left unfinished." Well, I know how that is, having had some experience in that line; but the worst part of the matter is, that the spirit, the temper is so worried and fretted. By all means, calm that, though no work be done for a week; attend to your flowers; they have a soothing, calming influence. Your "husband doesn't know nor care how hard you work, or how tired" you are? Well, he truly doesn't know—but then it is not likely he ever will know; and this sin of ignorance in him had better be winked at than fretted over. Again, I say, cultivate plants and flowers; let no day pass without listening, quietly, attentively to their whispering voices, and in your silent communings with them, learn to

"Bless God for flowers,
For the bright, gentle, holy thoughts they breathe
From out their odorous beauty, like a wreath
Of sunshine to life's hours."

The Baltimore *American Farmer* has changed from an octavo to a quarto form, and has reduced its subscription to \$1.50 per annum. This is the old *Farmer* which has been published for 60 years, and whose founder was John S. Skinner, who was well known as one of the first agricultural writers of the country.

THE EXCRETA OF TOWNS.

What to do with the human excreta of towns has ever been an embarrassing problem. Modern civilization constructs expensive sewers and carries it away by a waste of water; and in carrying it away we do not only waste a mine of wealth in the excreta, but pollute our rivers with it. If we desire to keep up the richness of the land, we must restore to it whatever we take from it. In removing excreta by volumes of water in sewers we do no follow out this law. Instead of garnering the treasure, we scatter it in channels where it becomes a positive injury, and not a blessing to us. In reviewing this question from a chemist's standpoint, Edward E. C. Stanford urges certain objections to the use of water as a carrier of excreta:

1. The enormous cost of the works, required in proportion to the small amount of noxious material to be removed.

2. The large annual outlay required to keep the closets in order. Experience in large cities has shown that, on this account, these closets are quite unsuitable for the dwellings of the poor.

3. The enormous amount of water employed (estimated at 365 times the weight of the excreta,) where, as in many towns, there is much difficulty in obtaining it.

4. That it results in a subterranean flood of filthy water, which must flow somewhere; and, wherever it flows, it pollutes the region, thus disseminating and distributing the evil.

5. This material, worth about 30s. per ton, has its value reduced by dilution to 1d. per ton, which it is impossible, by any known chemical method, to extract with profit.

6. The large generation of noxious gasses in the sewers, which constantly escape into our streets and houses.

To make more strong the latter objection, Stanford quotes Dr. Gairdner as condemning nearly all sewers as "diffusing poisons upwards and downwards," and too often "carrying backwards, into the very heart of the dwelling, the reflux gasses, the produce of the decomposition of the impurities of a whole neighborhood." We are further referred to medical reports for the facts in regard to the diarrhoeal death-rate of towns. It is demonstrated that where the death-rate from this cause is greatest, the population either breathes or drinks a large amount of putrifying animal refuse. Dr. Greenhorn insists that "the excess of mortality has, in all cases, been coincident with one or other of two local circumstances—(a) the tainting of the atmosphere with the products of organic decomposition, especially of human excrement; or (b) the habitual drinking of impure water."

Filth, especially excremental uncleanness, makes cholera destructive and epidemic. The diffusion of cholera, argues a medical gentleman, depends entirely on the numberless "filthy facilities which are let exist, and especially in our larger towns, for the fouling of earth and air, and water, and thus, secondarily, for the infection of man with whatever contagion may be contained in the miscellaneous outflowings of the population. Excrement sodden earth, excrement reeking air, excrement tainted water; these are, for us, the causes of cholera."—Typhoid fever, also, is largely dependent upon these filthy influences for its destructive power. The leaden pipes that we use soon become perforated with holes, through which the gasses escape into our rooms, thereby making us breathe the poison sleeping or waking. As a question of health, if nothing else, it is demanded that we shall adopt a different system than pipe drainage for the removal of human excreta. Dr. Stanford argues in favor of the dry closet. It is not attended with many disadvantages, and in adopting it we avoid the malaria evils. As a sanitary measure, it is nearly perfect; and as one of economy, sewerage cannot be compared to it.—In country houses it is best to use earth, but in towns where earth is difficult to obtain, charcoal can be used to best advantage. Charcoal, in addition to being inexpensive, is a powerful deodorizer, and its employment, we are assured, guarantees a perfect immunity from odor quite unattainable by the water closet: "It blackens and conceals the excreta so perfectly that no one seeing the product from the closets for the first time would have the least notion from its appearance what it was." In constructing houses with the dry closet, it would be necessary to remove the contents of the cess-pot only once every year. The charcoal, by drying and reburning, can be used several times. Experiments conducted on dry-closet excreta give these data: One ton of charcoal used five times, yielded, allowing 15 per cent. moisture, 48 cwt. of manure, containing nitrogen, equal to 18 per cent. sulphate ammonia, 15 per cent. phosphate of lime, and $7\frac{1}{2}$ per cent. sulphate of potash, and worth \$35 per ton. Under almost any management the profit on the charcoal used in this way is about 100 per cent., which certainly is not a bad investment. No system of sewage, leaving considerations of health out of the question, is perfect that fails to return to the soil that which we take from it in shape of food. In China they understand the full value of human excreta. From the letter we published last week, we learned that a large portion of the population of towns earn a livelihood by saving the excrement and selling it to the farmers, in order that the soil may be enriched for agricultural purposes. What a vast amount of wealth is wasted annually in New York in the shape of hu-

man excreta. Under the system now in vogue, we not only squander this wealth, but pollute our rivers, and constantly maintain under the city a gigantic laboratory of disease. The noxious gasses, through imperfect leaden pipes, escape into all our houses, and the fearful mortality list is evidence to us that the poison silently and surely does its work. Removing excreta by water drainage, certainly is a process not sanctioned by the enlightened spirit of the age. In this field a great revolution is wanted.

—*Turf, Field and Farm.*

BREEDS OF CATTLE FOR THE DAIRY.

At a recent meeting of the Ohio Dairymen's Association, Hon. L. D. Griswold in his address, gave the following opinions as to the merits of some of the breeds of cattle with reference to the Dairy :

What is meant by the term *breed*, as applied to cattle? I adopt the definition of Mr. Flint, author of a work on *Milch Cows and Dairy Farming*. "The term breed, properly understood, applies only to animals of the same species, possessing, besides the general characteristics of that species, other characteristics peculiar to themselves, which they owe to the influence of soil, climate, nourishment and habits of life to which they are subjected, and which they transmit with certainty to their posterity. The characteristics of certain breeds or families are so well marked that if an individual supposed to belong to any one of them were to produce an offspring not possessing them, or possessing them only in part, with others belonging to the breed, it would be just ground for suspecting a want of purity of blood."

Of these different breeds which have been brought to a high degree of perfection in England and in some sections of this country, I shall speak of only two or three as adapted to the subject under consideration.

First, the Ayrshire : This breed is justly celebrated throughout Great Britain and in this country, where known, for their excellent dairy qualities.—In color they are generally red and white spotted or mottled, not roan like the Short-Horns. They are of medium size, having a small head tapering toward the muzzle, short, small horns; bright, though mild eyes; slim neck; deep, though narrow chest; broad across the hips, the hind being much heavier than the fore quarters. They are believed to have originated by a cross of the Durham with the native cattle of Ayrshire, and have been bred with great care, until they have attained their present prominence.

They excel in the richness of their milk, rather than the quantity. Youatt estimates the quantity of milk at 850 gallons a year, as the average yield of an Ayrshire cow. Three gallons and a half of

the Ayrshire cow's milk will make one and a half pounds of butter. This would give a yield of 364 pounds of butter in a year, or an average of seven pounds a week, which at 33, would amount to \$136.50. The first Ayrshire cow imported into Massachusetts "yielded sixteen pounds of butter a week for several weeks in succession, on grass feed only."

Mr. Flint says : "The best milkers I have ever known in the course of my own observation were grade Ayrshires, larger in size than the pure bloods, but sufficiently high grades to give certain signs of their origin."

I am not aware that any thorough-bred Ayrshire stock has been brought to Ohio, but the foregoing facts would indicate the propriety of crossing some of our best native cows with a thorough-bred Ayrshire bull, and I hope some of our enterprising dairymen will soon secure the services of one or more such animals.


The Jersey breed of cattle have been imported to some extent to this country. They are distinguished more for the purity and exquisite flavor of their butter, than for the quantity of milk and butter which they yield.

The Short-Horns, or Durham breed has been extensively introduced into this country. This is especially true in Central and Southern Ohio and Kentucky. For beauty of form, for size, rapidity of growth and the facility with which they lay on fat, they are unequalled by any other breed. Some of the herds have been bred for dairy purposes, and they are first class milkers.

Our native cattle, if crossed with this latter class of Short-Horns, would leave nothing to be desired. I think grades of this description superior for dairy purposes to Short-Horns of pure blood. I consider this the best method of improving our dairy stock.

Of the Herefords and Devons it is not necessary to speak, as they are not adapted to dairy purposes.

How should one judge of a good dairy cow?—Such a cow should have a small, fine head, a mild eye, fine silky hair, soft and loose skin, a deep, narrow chest, broad across the hips, and a large though not dependent belly. The udder should be soft and capacious, not fleshy and not hanging down very low. The teats should be neither too large nor too small, and should be set wide apart. The milk veins, by which I mean the veins extending from the udder forward to the navel, should be large and knotty, as should the veins extending from the udder up the insides of the thighs.

 If Mr. Frank E. Sawyer, Greensboro, (no State) who remits \$1.50 for the *Maryland Farmer*, will send his post office address, we will comply with request.

Ladies Department.

A WIFE TO HER HUSBAND IN THE LEGISLATURE.

AIR—"Father, Come Home."

Husband, dear husband, come home to me now,
From the city and State House so warm;
'Tis lonely without you, why do you not come
And see to the things on the farm?
You told me, when you were elected last fall,
If I would but once let you go,
You'd surely return before April was past,
And I really believed 't would be so.
Come home! come home! come home!
Dear husband, kind husband, come home.

Husband, dear husband, come home to me now,
Come home e'er the spring time is through;
The old brindle cow has got a white calf,
And the young lambs are bleating for you;
The hens have been sitting a fortnight or more,
They soon will be off with their broods,
The old speckled turkey has stolen her nest
Away in the brakes or the woods.

Husband, dear husband, come home to me now,
The garden needs spading for peas,
The boys should be picking up stones in the lot,
And you should be trimming the trees.
When will you get through with 'bills' and 'resolves'
Stop talking of license and rum,
Of railroads and tunnels and such other things,
And tend to your business at home?

Husband, dear husband, don't write to me more,
Of the theatre, lobby and club,
Nor dinners you've eaten at the "Maryland" and
"Morse's"

But hurry away from the hub,
Yes, hurry back home, your Betsy is sad,
Her heart is so honest and true:
All winter she's slept in the bed room alone,
And say, dearest husband, have you?

Husband, dearest husband, come home to me now,
Come home, while the birds sing in May;
And let not the smiles in the gallery there
Distract you or tempt you to stay.
The voice of your Betsy is calling you now,
Come home, for you know what it means,
I'm getting quite nervous about you, come home
And we will have crowslips for greens!

BETSY JANE.

HOME AND ABSENCE.

OLD FACES—A BACHELOR'S STORY.

A short absence enables us to see changes that we never see during a long continuance of the present tense in one place. The mother scarcely realizes that her children grow. Tom is always half a head taller than Hettie, and Hettie is a head taller than John, therefore, John doesn't grow any. To the father Minnie is always his "little girl," though she is a woman in stature and half the young men in the neighborhood are courting her and dreaming of her as wife. To the mother the youngest child is always baby, though he stand six feet in his stockings, and to the whole family the youngest girl is always "sis," though she be a matron with a family of her own.

Send the girl away to boarding school and let her return in three months and see how much she has discovered of the growing qualities of her brothers and sisters. Send a boy across the ocean, let him live five years among old associations and return, and see how his eyes refuse to expand to take in the unexpected bigness of his little home companions of the

five years before. They have grown nearer and in a corresponding ratio, bigger. He sees with no common sight, because the heart multiplies the ratio as it diminishes the distance, and the little folks stand out as grand figures to be admired and loved.

We may watch a plant for hours but we will not see it grow. A single night's absence will tell us that it has grown however. If we remain in one locality we cannot see the Spring approach. We become impatient at freezes and frosts and rains, and think it was never so before. But visit different sections, remain away three or four weeks, return when the sun shines in a real April day manner, and you will see how much the Spring has grown upon the country—how much Winter has receded—how different is every breath of air, every shape of tree, every shade of field, every action of people. The girl throws on her bonnet in a springy way; the boy throws off his coat as he never did in winter; the man talks all the time about something he didn't think of a month ago.

There may be fire in the grate or in the stove, but there are different surroundings. Little chicks, but a few days old, play the part of crickets in the chimney corner, and very cheerfully, too; you are a little in doubt whether the people think more of the baby or the chickens. They are everybody's pets and everybody's property. They form the most artistic springtime picture of the fireside, and tell in their pretty ways of change.

These impressions came to me on my return to where that little General Assembly of mine still holds rule in pleasant every day session. Easter Sunday, with its thunders and snows and rain, had been spent in another State in the old traditional way among bright colored eggs and feasting that I can never understand, and after a long journey I waked up to the realization that in my month's absence everything had grown.

There was change everywhere. Flower beds had been prepared in the door yard and in the garden; the rubbish had been cleaned away; the mammoth winter wood pile had assumed a symmetrical smallness; the huge pile of manure had disappeared from the barn front; the grass was very green to me, though my little General Assembly declared they could not see it in that way; Kate was teaching school, and so was Mary and Jane and Jennie, and a host of my other young lady friends; old Franz was a new man, and his boy, sick and pale when I went, was now strong and touching up fence and flower bed and wood pile and old shed with artistic finish. The picture part of the man was leaving his person and finding place in whatever he touched. He had an instinctive knowledge of any kind of work in which shape or beauty held place. He was the first to discover that the barn fence leaned; that the barn door sagged; that a brick was gone from the ornamental part of the old chimney; and as soon as his strength would allow commenced work to remedy and re-shape. He re-modeled the grape vine arbor; designed new shapes for Miss Fannie's flower beds; took down the old pigeon box and put in its place an artistic little temple. He did all this quietly, rarely spoke to any one, seemed to enjoy the doing and to have pride in the consummation. The sun always seemed to go down to the plaintive music of his flute, and moonlight seemed more soft as associated with his impromptu melodies.

Miss Fannie, Frank's young lady friend, was changed too. She observed more. She took great interest in kitchen mysteries that she had cared but little about before, and the home was brighter there and is brighter here. So says the Judge, and so say I. This brightness may be the result of absence, or owe some of its pleasantness to the sudden transition from the vexations of travel to the comforts of home. These things will come up to be compared, and travel is not always

pleasant, though journeys are. It is pleasant a rainy day to seat yourself cosily in a half filled car and whirl away with a sort of "rain on the roof" feeling, but when you are transferred to an old fashioned coach, for a long ride, you determine to be miserable.

I was thus transferred, and when I saw that my companions were all men, and young men, too, I was much troubled. Their gaiety jarred on my inner quietness and spoiled the smooth, musical flowing of thoughts and dreams and wishes in my mind. They were all bachelors but two, and the ills of married life were discussed from every conceivable stand point. There was much justice in the talk, but it seemed rough. I associated these men in some way with grave robbers, hovering over and ready to snatch from me a treasured image. I was afraid all the time there would be some reference that would anger me, but the jokes were all harmless, and the remarks all toned by manliness. There were numerous experiences given and some odd ones, and as the stories proceeded we grew nearer to each other, and the current flew more rapidly and hearts beat faster, and pictures grew warmer or more intense. One story I must reproduce in my own way here. I cannot render it as it was given by the earnest man on the back seat of that old couch, but as it was a rare life experience, I feel that it is better that it be badly told than not at all.

The Judge had said in his severest tone, "Young men, do not teach yourselves to think a bachelor's life pleasant. You are looking for ideal women. Such men are never happy. They grow dark and hollow hearted, and rather than become such you had better hang yourselves at once." I expected him to add, "and may God have mercy on your souls;" so much did he speak as though he were pronouncing the death sentence in court, but a bright young fellow in the corner opened his eyes wide, and snapped out, "Don't you believe a word of such stuff. That's all humbug. Let me tell you the story of a man whose memory is as sacred to me as his influence was good and powerful with me for years. I did not know him well until he was thirty years of age; but boy as I was I knew his history. He was a kind hearted, sensible man—successful everybody knew—sensitive to a fault everybody said. He sighed for a home; he looked for a wife; for a woman whom he could love with all his heart. He became acquainted with a very lovely girl when about twenty-eight, and people said 'a match.' My mother, then an invalid, often used to press my head and murmur, 'I hope Henry will marry that girl—I know she loves him.' But he did not.

"Mother talked to him one night until the stout man became weak as a child. He said, 'I love the girl but not enough; there is a great place in my heart—she cannot fill it. I cannot understand her. She takes as much pleasure in the company of my giddy and foppish friend as she does in mine. I am selfish, and I will not marry.' The next day he left for California; and a year afterwards the young lady was married happily. A year later she came to the bedside of my mother, to see her for the last time on earth. Boy as I was I recollect every word of that talk as plainly as if I should hear it to-day. I seemed to understand, oh, so thoroughly; and my mother spoke in such a strange way. The girl admitted that she had loved the man, that she loved him still, that she would not have hesitation to become his wife, but, said she, sobbingly, 'He never asked me and I took the man I loved next to him. He will always be unhappy; he will never find his perfect woman.' I did not think so. A week after that my mother died; and though my uncle did not reach her in time to see her alive, he stood with me beside her open grave. His sorrow was so much like mine, he grieved in so much the same way, that now, without father

or mother, he seemed to fill the place of both. His sympathy was so well expressed, he treated me with such delicate kindness, and anticipated my thoughts in such a way, that I worshipped him. For years in fact, until I grew to be a man, I shared his bachelor home and bed. Fearing his bachelor influence, relatives tried to influence me to leave him, but I would not. I cared more for him than for all others.

"Just as I came to that age when boys begin to love, he commenced going with me into society, and encouraged me to seek the company of ladies. He said, 'I am going to marry soon, and for love, and then you must leave me.' Then came the whole story of his life. The world called him a coward in love matters—said that he feared a woman's answer—but I knew that he was brave, and that night my pillow was wet with tears of joy.

"A few days afterwards he brought my aunt to me. She was a widow with three beautiful children, but the world did not laugh at the old bachelor's fancy. The man *had* found his ideal woman. Nature had made her beautiful and life experience had made her good and great. Never shall I forget her look, her touch, her words. They all spoke with treble power, and I loved on the instant the woman, as I had loved, after years of familiarity, her husband. Though not an inmate of their home I spent much time there. The woman seemed a second mother to me, and her home *was* beautiful and pleasant. Her children, the very first day after the wedding, were as proud of her husband, and said 'father' to him in a way as natural as though they had known him all their lives as such. And he was the proudest man I ever saw. He made the girls more beautiful and the boy more manly. How he did this I can scarcely tell you. Two years of happy life paid this man for his long waiting, and then sickness brought sorrow to his home. He was severely sick for six weeks, and all the time, like an angel picture, I see those four bright faces hovering about him.

"Then the boy left the group, and in another room there was a sick couch made for him. Night after night I sat with that boy and watched him restrain groan and moan, and murmur that his 'father' in the other room might not know he was sick. But he *did* know, and then the door was left open that the two might speak across to each other and might see each other. One day the doctor ordered the door closed. That night the boy died, but the next morning those girls and that mother went to the other invalid with faces made calm and words cheery hoping to deceive and encourage and save. He said quietly, 'Harry is dead—I know what you would do, but you cannot. You have made my life so happy that it seems scarcely a step to the happiness of the other world.' And calmly and peacefully he went away from them to that other world.

"The boy and the man were buried in the same grave, and darkness came to the happy home. Sitting day after day, night after night, with the stricken family, I learned the full volume of that woman's love. She could not talk enough about him, and her children always said 'go on, mother.' I am going to see them now. I would rather wait thirty five years to marry a woman like my uncle found and have two years happiness such as he had, than live a life time with a woman whom I could not understand or thoroughly love."

The judge made no reply—not one of the young men spoke a word. That was the last story of the ride

TRADDES, in *Farmer's Chronicle*.

Love.—*Shakespeare.*

Doubt thou, the stars are Fire;
Doubt, that the Sun doth move:
Doubt Truth to be a Liar;
But never doubt, I love.

DOMESTIC RECIPES.

DRY HOP YEAST.—Pour a quart of boiling water to ten or twelve good hops and place them where they will boil a moment; strain, and pour over four medium sized potatoes *grated*; mix thoroughly, and add a tablespoonful of salt; then set it on the stove until well scalded; when a little warmer than new milk, add a cup of yeast and set in a warm place to rise; after it is nicely risen (if the batter is thick it will *rise*, if thin it will foam, which is nearly as well) mix in sufficient corn meal to allow of working it in to small cakes with the hands; place them where they will dry without either scalding or drying so slow as to sour, as in either case they are worthless. I place them on a large tea-tray and suspend them high enough to be out of the way and a foot or so from the pipe of the kitchen stove. They will dry in about two days, and should be turned over; if they crumble some no matter; when thoroughly dry, put them in a tight paper bag and they are ready for use.

CRACKER PIE.—Two crackers broken fine—one cup of sugar—one cup of boiling water—one teaspoon tartaric acid—two crusts.

LEMON PIE.—One lemon chopped—one cup of sugar—one and a half crackers made fine—three tablespoons hot water—two crusts.—*Cor. Country Gentleman.*

GIBLET SOUP.—The giblets must be well cleaned and singed; put them into some strong veal or gravy broth, with shallots chopped very fine. Great care must be taken to keep the stock well skimmed; when properly stewed, put in a wineglass of Madeira, salt, pepper, and mace, sifted fine, and a little lemon acid. When the rawness of the wine and lemon is gone so that no flavor predominates, pour it into a tureen and serve hot to table.

A SWISS SOUP.—Boil three pounds of potatoes, mash them well and add slowly some good broth, sufficient for the tureen. Let these boil together, then add some spinach, a little parsley, lemon, thyme and sage, all chopped very fine. Boil altogether five minutes; pepper and salt to taste. Just before taking it off the fire to serve add two well-beaten eggs.

MUSH OR INDIAN MUFFINS.—Take a quart of new milk, stir into it two good handfuls of Indian meal; stir it until it comes to a boil; take it off the fire and stir in a lump of butter the size of an egg and salt to the taste; let it become quite cool, then stir in a teacupfull of yeast, and flour enough to make a stiff sponge. Cover it and set it to rise; roll the sponge about a quarter of an inch thick; cut it out with a tumbler; flour your griddle well, and bake thoroughly over a brisk fire, turning them frequently to prevent burning. Do not set them in too warm a place to rise, as they will be apt to sour.

BREAD DUMPLINGS.—Roll out some light bread dough, cut into small cakes, let them remain on the table about an hour, then put them into boiling water and let them boil half an hour. Serve hot; to be eaten with sugar and cream.

FRIED BREAD.—Dip stale bread in water, slightly salted. Fry brown in lard.—*Germantown Telegraph.*

GOOD RUSK.—One pint of new milk, one pound white sugar and two eggs beaten, stir these up with some flour into a sponge, add yeast and set to raise at night. When light next day add sufficient flour to make a soft dough and let it rise, then mould in pans, and when light, proceed to bake. Add a tablespoon of melted lard or butter to the sponge.

LOAF CAKE.—One cup of sponge or two cups of light dough, one cup of sugar, half a cup of butter, two eggs, half a teaspoonful of soda, one cup of raisins. Spices to the taste.

EXPENDITURES FOR MANURES.

Millions of dollars, says a writer, are annually expended for manures that ought to be *saved*, for, with adequate painstaking, a farm whose stock is rightly proportioned to the number of acres tilled, will furnish all the manure necessary to keep the farm constantly increasing in fertility. Barn should be so arranged as to shelter and save all the manure, both liquid and solid; then, as a load of solid manure from the stable to the "ordure room," there should be thrown over it two or three times its bulk of refuse straw, sods, weeds, leaves bean and pea-vines, mulch, swamp muck, tannbark, sawdust and shavings, pouring over the heap as much liquid manure as the compost will absorb. By the constant repetition of this process, there will be created an enormous amount of fermented manure, sufficient to supply all reasonable demands of the farm.

If eight or ten hogs are fattened, by means of the same process, the hog-pen is made to furnish a bountiful supply of manure for the garden and a large field of corn. Any farm may thus be made to manufacture all the manure for the crops grown upon it, except potatoes, and those should have plaster instead of manure, as the latter increases their tendency to rot. Potatoes should be planted on a dry piece of land, after buckheat, and the land well sown with plaster, or the planter may throw a handful of plaster into each hill. Ashes do very well as a substitute for plaster: potatoes are not liable to rot planted with either.

Guano is good and valuable for farm use; but every farmer should save from the droppings of the hennery enough for home use, instead of buying the imported article. Privies should be so constructed as to readily yield up their accumulation, either from a tight box, so hung as to be easily moved, or from a sliding drawer, whence the contents should be conveyed to a heap or vat of absorbent refuse, which should also be the receptacle of kitchen refuse and bedroom deposits. A compost heap is thus formed sufficient to enrich a garden to the highest degree of fertility, and by the use of chloride of lime, or some other disinfectant, all offensiveness may be avoided.

The following deductions, drawn from years of observation and experience, are worthy the attention of farmers:

1st. Farming cannot be profitably conducted without careful reference to the laws of waste and supply.

2d. The nature of the waste must be understood, and the proper remedies applied.

3d. All these supplies should be drawn from the resources of the farm under culture.

The Maryland Farmer is only \$1.50 per annum.

RECEIVED.

From Ellwanger & Barry, Rochester, New York, wholesale catalogue of fruit and ornamental trees, grapes, shrubs, &c., &c.

From James Vick, Rochester, New York, his elegantly illustrated Catalogue and Floral Guide for 1870. This catalogue is gotten up in a most superb style, with numerous illustrations of flowers and vegetables. It contains a portrait of this eminent florist. Send 10 cents for a copy.

From N. C. Mitchell, Indianapolis, Indiana, the first number of "The Illustrated Bee Journal," devoted to the culture of the honey bee. Price \$3 per annum.

From Barrows, Savery & Co., Philadelphia, "prize essays on cooked and cooking food for domestic animals of the farm," with directions for using the Prindle Agricultural Steamer and Caldron. The pamphlet contains the prize essays by E. W. Stewart of New York, Wm. H. White, of Connecticut, and J. Wilkinson, of Baltimore, and other interesting matter on cooked food for animals.

From Wardwell & Co., West Dresden, Yates county, New York, Horticultural circular for Autumn of 1870.

From Samuel A. Echols, Atlanta, Geo., editor of the "Rural Southerner," letters of Farmer Foggy, being replies to Mr. Dickson's letters on Immigration, &c.

From James J. H. Gregory, Marblehead, Mass., annual circular and retail Catalogue of choice vegetable and flower seeds. This catalogue is very complete and numerously embellished. Send for a copy as above.

From Wade & Armstrong, Philadelphia, wholesale price list of garden and agricultural seeds.

From Henry A. Dreer, Philadelphia, his garden calendar for 1870—designed to furnish brief directions for the management of the vegetable, flower, and fruit garden. Illustrated with numerous wood cuts—and containing lists of Seeds and Plants.

From R. H. Allen, New York, retail priced Catalogue of vegetable, flower, fruit, herb and field seeds for 1870.—Illustrated with fruit and vegetables.

PUBLIC LEDGER ALMANAC.—Geo. W. Childs, Esq., of the *Public Ledger*, Philadelphia, has issued as a New Year's gift, 60,000 copies of this well arranged Almanac for 1870. It contains fifty-six pages, and embraces a large amount of useful information and statistics. It is a beautiful specimen of typography, and cost over \$5,000, and is to be continued annually. A compilation of so much usefulness, is a credit to the well-known enterprise of its author, and will be an acceptable gift to his host of subscribers. "The *Public Ledger*," of Philadelphia, under the management of Mr. Childs, has reached a circulation larger than any other daily in the United States, and it richly deserves it, as it is the best.

The *Public Ledger Building*, Sixth and Chestnut streets, is well worth a visit, as it is perhaps the most complete newspaper printing and publishing establishment in the world. Visitors are shown through the building at any hour of the day. The large printing presses can be seen in operation at 12 o'clock on any night except Saturday.

TO BREEDERS OF DEVON CATTLE OF AMERICA.—It is announced that the Third Volume of the *AMERICAN DEVON HERD BOOK*, will be published early in the year 1871, or as soon as a sufficient number of pedigrees are received to warrant its publication. Pedigrees for the Third Volume can be sent to the Editor, H. M. Sessions, South Wilbraham, Mass., any time during the year 1870, accompanied with the recording fee of \$1.00, for each pedigree sent; and written out in full, in the form of those in the First and Second Volumes.

THE MUSICAL INDEPENDENT for January, the opening number of the second volume, appears in a new and much more elegant dress. It affords eleven large quarto pages of reading matter, including the opening chapters of a new School of Modulation, translated from the German of H. Wohlfahrt, Editorials, Reviews of Music, Answers to Correspondents, etc., and 16 pp. of music, namely: Song, "Oh! What are they Doing at Home?" "Trab, Trab," arranged by Egghard. Song, "Weep not, my Child," and "Water Witch Baicarolle," by Mack. Many excellent judges assign this Magazine a rank with the highest in musical journalism. Price, \$2 per year; specimen copies, 25 cents. Address, Lyon & Healy, Chicago.

EUREKA! EUREKA!! EUREKA!!! What? Natures sovereign remedy for healing the sick. Dr. Pierce's Alt. Ext. or Golden Medical Discovery combines in harmony more of natures most valuable medical properties than was ever before combined in one medicine. For the speedy and safe cure of all coughs, whether acute or lingering, it has proven its superiority over everything else. For "Torpid Liver" or "Biliousness" and for constipation of the bowels, loss of appetite, indigestion, and dyspepsia, it is a never failing remedy. As a Blood Purifier it is unequalled. Sold by druggists.

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THE HORTICULTURIST.—We commend THE HORTICULTURIST to the attention of lovers of Fruits, Flowers, and Rural Embellishments. Having been greatly improved this year, it will be found one of the best and most valuable horticultural journals published in the United States. Henry T. Williams, publisher, New York—price \$2.50 per annum.

GOOD HEALTH.—A Journal of Physical and Mental culture, whose aim is—"The improvement in human health—the lengthening out of human life." This monthly is tastefully executed, and teems with interesting matter relating to body and mind. Alexander Moore, publisher, Boston—price \$2—single copy 20 cents—3 copies \$5.

MILL GOODS.—The attention of Millers and Millwrights is invited to the advertisement of Morris & Trimble, of Baltimore, who are prepared to furnish every thing in their line, of the most superior quality and on liberal terms.

HERALD OF HEALTH.—A Journal of physical culture—advocates a higher type of manhood, physically, intellectually, and morally. The January Number abounds with useful and entertaining matter. Wood & Holbrook, New York—price \$2 per annum.

BURKE'S WEEKLY FOR GIRLS AND BOYS.—The monthly part, for January, of this excellent southern juvenile publication, has been received. Below we give the table of contents:

I. The adventures of Big Foot Wallace; by the author of Jack Dobell. II. Saloquah; or Boy Life among the Indians; by Rev. F. R. Goulding—illustrated. III. Lillian Lisle; or, Life at the Old Farm House; by Mrs. S. E. Peck—illustrated. IV. The Angel's Song; a Christmas Story; by Mrs. Thendosa Ford—illustrated. V. Green Apples—illustrated. VI. The Echo story; by Dr. F. O. Ticknor. VII. Little Nellie; by Mrs. M. E. McKenzie. VIII. Miriam; by Rev. T. B. Russell. A. M. IX. Anna Bell, and other Poems; by Mrs. Mary Ware. X. Roland Doyle; or, Sharpening the Wits—illustrated. XI. The Puritans—illustrated. XII. Etienne—illustrated. XIII. A Scene in Cairo—illustrated. XIV. Good News—illustrated. XV. Jerusalem—illustrated. XVI. Cloud of Heaven—illustrated. XVII. Our Little Folks—three illustrations. XVIII. Our Letter Bag. XIX. Our Chimney Corner. XX. Editorials, etc. Terms \$3 a year. J. W. Burke & Co., publishers, Macon, Ga.

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